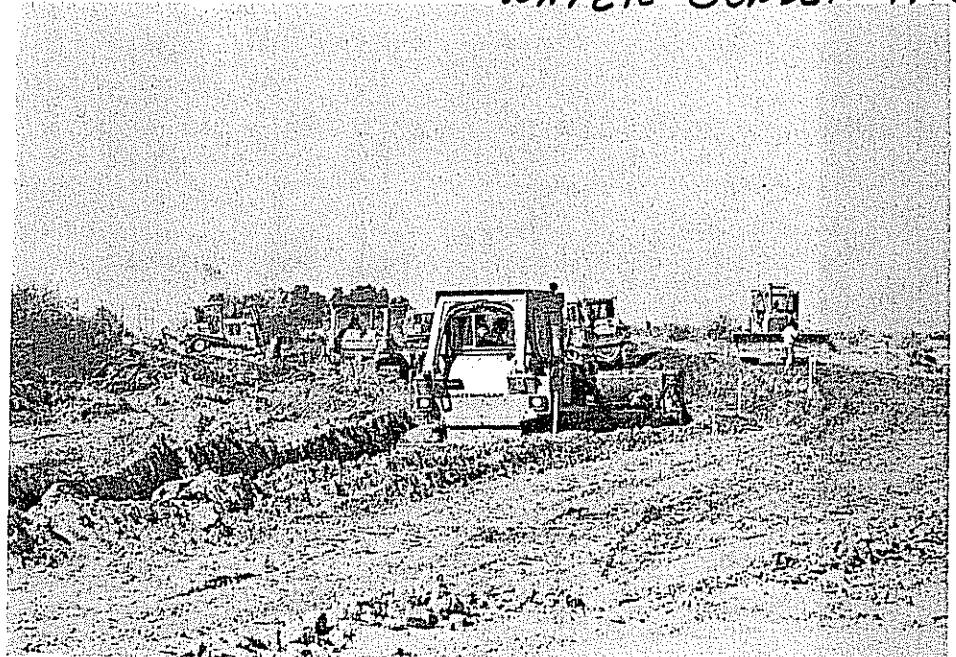


— 8

WHITE CONSTRUCTION

IMPERIAL IRRIGATION DISTRICT

1985
WATER
REPORT



J. R. WILSON
MANAGER
WATER DEPARTMENT



IMPERIAL IRRIGATION DISTRICT

**1985
WATER
REPORT**

**J. R. WILSON
MANAGER
WATER DEPARTMENT**



The District's concrete lining program is a finely tuned cooperative effort between IID and contractor's men and equipment.

Photo 1 - Eight to ten IID dozers prepare the embankment to grade.

Photo 2 - The contractor trenches the channel, and then

Photo 3 - the contractor places the concrete lining.

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**WATER DEPARTMENT
OPERATIONS AND ORGANIZATION**

Water is diverted from the Colorado River at Imperial Dam through the District's All-American Canal headworks and desilting basins, thence into the All-American Canal for transporting to Imperial, Yuma and Coachella Valleys. Yuma Project water is diverted from the All-American Canal at Siphon Drop. Coachella Valley Water District water is diverted at Drop No. 1 to the Coachella Branch of the All-American Canal. All water passing below Drop No. 1 in the All-American Canal is for use by Imperial Irrigation District.

The District's gravity-flow canal and drainage systems serve an area of 511,890 acres of irrigated farm land. The total gross area within the District's boundaries is 1,062,290 acres, including undeveloped area; cities, towns, airports, feed lots, etc., area below the -230 contour Salton Sea Reserve Boundary and area covered by Salton Sea; and area in canals, drains, rivers and railroads.

Water Department's responsibilities include operation and maintenance of the All-American Canal headworks and desilting basins at Imperial Dam, 82 miles of All-American Canal, 3 miles of New Briar Canal, a 1,593-mile network of other main canals and laterals, 52 miles of drains in All-American Canal Section and 1,406 miles of main and lateral drains. Due to the concrete lining of the Coachella Branch of the All-American Canal in 1980, the Coachella Valley Water District now operates and maintains this 49-mile section.

Water conveyed in the District's canal system serves agricultural, industrial and domestic purposes. All cities and towns in Imperial Valley receive raw water supplied from District canals.

Department organization includes Irrigation and Drainage Section, All-American Canal Section, Water Control Section, Civil Engineering Section, Drainage Construction and Maintenance Section, Hydrilla Research Project, and Heavy Equipment Operations Section.

Number of Employees in Water Department - December 31, 1985

Water Administration	6
Hydrilla Research Project	3
Water Engineering	22
Water Control.	55
Heavy Equipment Operators Pool	54
Drainage Construction, Maintenance and Design	34
Irrigation and Drainage Section	196
All-American Canal	38
Total	408

Soil Conservation Service District

The local Soil Conservation Service District operates under a memorandum of understanding between the District and the U.S. Department of Agriculture, and a close liaison is maintained between the agencies. Engineering information produced by one agency is available to the other organization.

The Imperial Irrigation District Board of Directors also serves as Directors for the Soil Conservation Service District and sets policy for the Soil Conservation Service Operations in Imperial Valley.

Cars and Trucks Assigned to Water Department Sections, Units & Divisions

Manager, Water Department	1
Assistant Manager, Water Department	1
Hydrilla Research Project	3
Engineering Section	5
Engineering - Boat Trailer	1
Water Control Section	27
Drainage Construction	30
Drainage Construction - Utility Flatbed Trailers	3
Drainage Construction - Material Trailer	2
Equipment Operations	46
Equipment Operations - Flatbed Trailer	1
Equipment Operations - Pull Trailer	1
River Division	12
River Division - Dump Truck	1
River Division - Tiltbed Trailer	1
River Division - Boat Trailer	2
Western Division	10
Western Division - Boat Trailer	1
Western Division - Pump Trailer	1
Western Division - Trailer (Debris removal)	1
Western Division - Flatbed Trailer	1
Western Division - Tiltbed Trailer	1
Superintendent, General, Irrigation & Drainage	1
Holtville Division	24
Holtville Division - Tiltbed Trailer	1
El Centro-Calexico Division	26
El Centro-Calexico Division - Pump Trailer	1
Imperial Division	22
Brawley Division	22
Westmorland Division	23
Westmorland Division - Tiltbed Trailer	1
Calipatria Division	22

Heavy Equipment Assigned to the Water Department

Draglines	7
Motor Cranes	4
38-B Dragline	1
Hydraulic Excavators	5
Hydraulic Excavator - Crawler Mounted	4
Angledozers	12
Motor Graders	3
Backhoes	7
Skiploader	1
Sprinkler Trucks	5
Lube Trucks	2
Wheel Tractors	12
Dump Trucks	7
Boom Trucks	10
Scraper	1

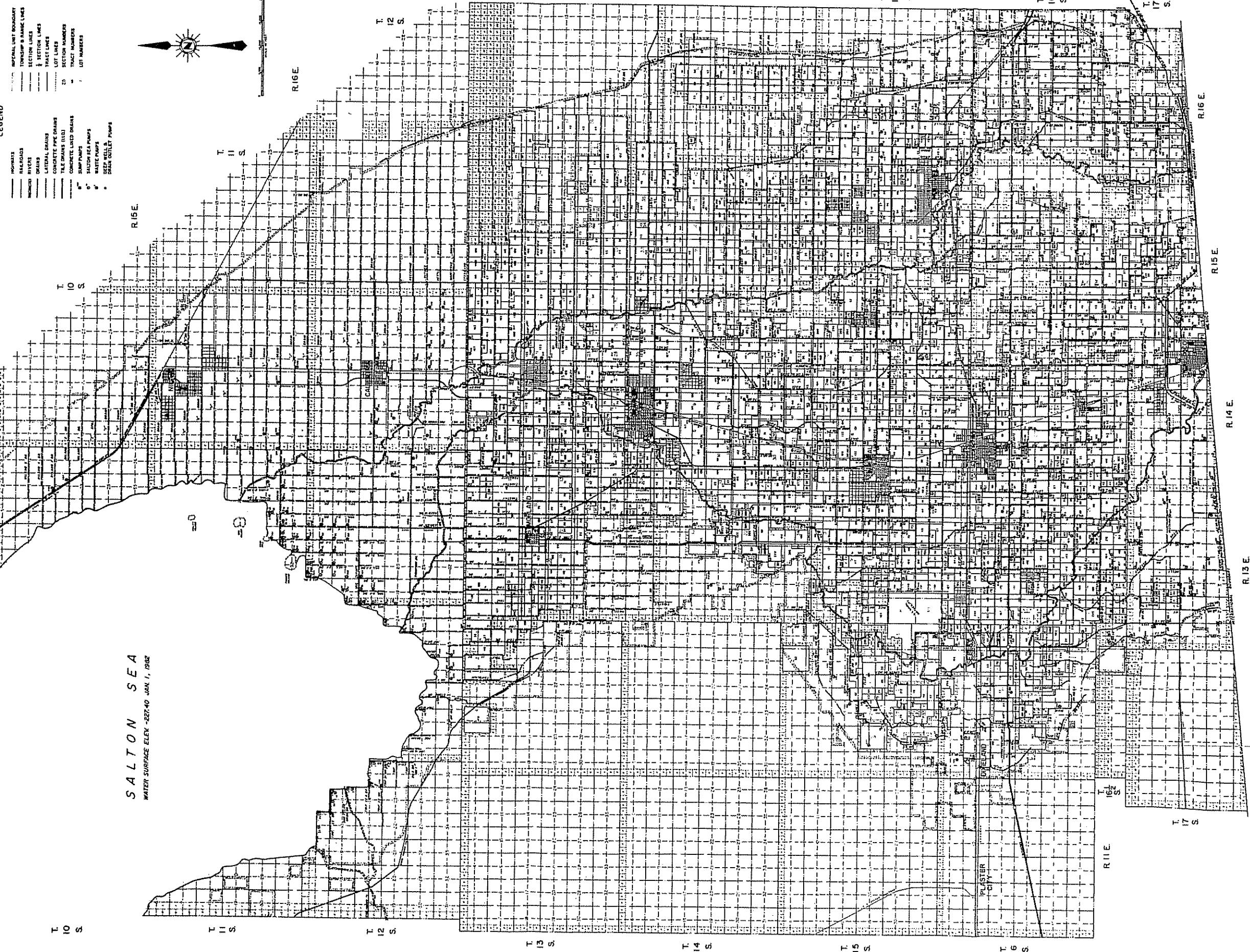
**MAPS OF
IRRIGATION AND DRAINAGE SYSTEMS**

IMPERIAL IRRIGATION DISTRICT
IMPERIAL COUNTY, CALIFORNIA
DRAINAGE SYSTEM

IMPERIAL UNIT

JANUARY, 1982

D.A. TWOWOOD
GENERAL MANAGER



IMPERIAL IRRIGATION DISTRICT

IMPERIAL COUNTY, CALIFORNIA

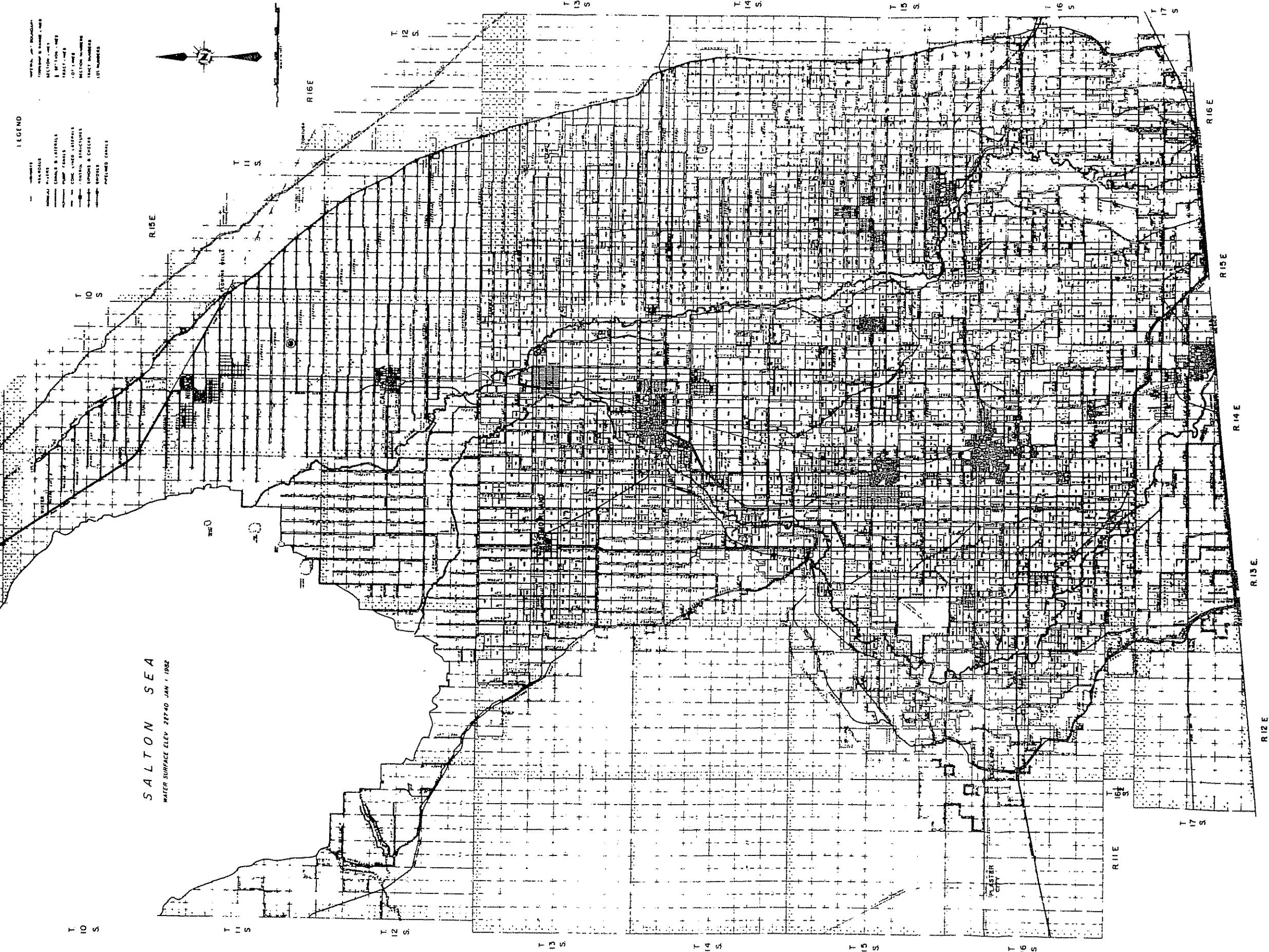
IRRIGATION SYSTEM

IMPERIAL UNIT

D. A. T. WAGGONER
SPRING, 1982

JANUARY 1982

Map No. 8223



**GROSS ACREAGE, CANAL AND DRAIN MILEAGE
AND INVENTORY OF STRUCTURES**

GROSS ACREAGE OF IMPERIAL IRRIGATION DISTRICT
WITHIN THE A.A.C. SERVICE AREA BOUNDARIES

1. Imperial Unit

Acreage included in Imperial Unit as of 12-31-85	626 614
Included August 10, 1967, (No Water Rights)	63 933
Total Acreage included in Imperial Unit	<u>690 547</u>
Acreage within Imperial Unit not included	3 874
Total Gross Acreage - Imperial Unit	694 421

2. East Mesa Unit

Acreage included in East Mesa Unit as of 12-31-85	201 916
Acreage within East Mesa Unit not included	<u>18 727</u>
Total Gross Acreage - East Mesa Unit	220 643

3. West Mesa Unit

Acreage included in West Mesa Unit as of 12-31-85	67 146
Acreage within West Mesa Unit not included	<u>59 130</u>
Total Gross Acreage - West Mesa Unit	126 276

4. Pilot Knob Unit

Acreage included in Pilot Knob Unit as of 12-31-85	15 478
Acreage within Pilot Knob Unit not included	<u>5 472</u>
Total Gross Acreage - Pilot Knob Unit	<u>20 950</u>
Total	1 062 290
Total Acreage included - All Units	975 087
Total Acreage not included - All Units	<u>87 203</u>
TOTAL GROSS ACREAGE WITHIN A.A.C. SERVICE AREA BOUNDARIES	1 062 290

SALTON SEA AREA

The approximate area covered by that portion of Salton Sea lying within the boundary of the IID on 12-31-85	104 095 acres
The approximate area within the IID boundaries lying above the December 31, 1985, shore line of Salton Sea and below the -230 Salton Sea Reserve Boundary	1 305 acres

CANAL AND DRAIN MILEAGE AS OF DECEMBER 31, 1985

	<u>Total Miles</u>	<u>Miles Earth Section</u>	<u>Miles Concrete Lined</u>	<u>Miles Pipelined</u>
All-American Canal - Canals	82.28	79.68	2.60	0.00
All-American Canal - Drains	51.64	37.51	0.00	14.13
Main Canals	147.69	138.92	8.77	0.00
Lateral Canals	1 445.19	544.93	891.31	8.95
Drains	<u>1 405.55</u>	<u>1 304.89</u>	<u>0.60</u>	<u>100.06</u>
Totals	3 132.35	2 105.93	903.28	123.14

MAIN CANAL MILEAGE AS OF DECEMBER 31, 1985

BY DIVISIONS

<u>Divisions</u>	<u>Total Miles</u>	<u>Miles Earth Section</u>	<u>% Earth Section</u>	<u>Miles Concrete Lined</u>	<u>% Concrete Lined</u>	<u>Miles Pipelined</u>	<u>% Pipelined</u>
Holtville	16.60	16.60	100.00	0	0	0	0
El Centro-Calexico	36.91	32.73	88.68	4.18	11.32	0	0
Imperial	26.50	26.50	100.00	0	0	0	0
Brawley	12.94	12.94	100.00	0	0	0	0
Westmorland	19.20	19.20	100.00	0	0	0	0
Calipatria	35.54	30.95	87.09	4.59	12.91	0	0
Division Totals	147.69	138.92	94.06	8.77	5.94	0	0
All-American Canal	<u>82.28</u>	<u>79.68</u>	<u>96.84</u>	<u>2.60</u>	<u>3.16</u>	<u>0</u>	<u>0</u>
Grand Total	229.97	218.60	95.06	11.37	4.94	0	0

LATERAL CANAL MILEAGE AS OF DECEMBER 31, 1985

BY DIVISIONS

<u>Divisions</u>	<u>Total Miles</u>	<u>Miles Earth Section</u>	<u>% Earth Section</u>	<u>Miles Concrete Lined</u>	<u>% Concrete Lined</u>	<u>Miles Pipelined</u>	<u>% Pipelined</u>
Holtville	290.84	59.96	20.62	230.52	79.26	0.36	.12
El Centro-Calexico	227.81	105.61	46.36	121.70	53.42	0.50	.22
Imperial	199.44	52.31	26.23	145.93	73.17	1.20	.60
Brawley	241.93	103.04	42.59	132.95	54.95	5.94	2.46
Westmorland	196.27	49.12	25.03	147.15	74.97	0.00	.00
Calipatria	<u>288.90</u>	<u>174.89</u>	<u>60.54</u>	<u>113.06</u>	<u>39.13</u>	<u>0.95</u>	<u>.33</u>
Totals	1,445.19	544.93	37.71	891.31	61.67	8.95	.62

DRAIN MILEAGE AS OF DECEMBER 31, 1985

BY DIVISIONS

<u>Divisions</u>	<u>Total Miles</u>	<u>Miles Earth Section</u>	<u>% Earth Section</u>	<u>Miles Concrete Lined</u>	<u>% Concrete Lined</u>	<u>Miles Pipelined</u>	<u>% Pipelined</u>
Holtville	117.33	98.15	83.65	0.30	0.26	18.88	16.09
El Centro-Calexico	80.23	73.17	91.20	0.30	0.37	6.76	8.43
Imperial	71.05	65.81	92.62	0.00	0.00	5.24	7.38
Brawley	219.27	216.24	98.62	0.00	0.00	3.03	1.38
Westmorland	135.14	132.84	98.30	0.00	0.00	2.30	1.70
Calipatria	<u>286.02</u>	<u>266.06</u>	<u>93.02</u>	<u>0.00</u>	<u>0.00</u>	<u>19.96</u>	<u>6.98</u>
Division Totals	909.04	852.27	93.75	0.60	0.07	56.17	6.18
Drainage	496.51	452.62	91.16	0.00	0.00	43.89	8.84
All-American	<u>51.64</u>	<u>37.51</u>	<u>72.64</u>	<u>0.00</u>	<u>0.00</u>	<u>14.13</u>	<u>27.36</u>
Grand Total	1,457.19	1,342.40	92.12	0.60	0.04	114.19	7.84

INVENTORY OF STRUCTURES

December 31, 1985

<u>Main Canals - Divisions</u>	<u>Concrete</u>	<u>Rubble</u>	<u>Wood</u>	<u>Others</u>	<u>Total</u>
Deliveries	194	13	2	-	209
Checks	57	2	-	-	59
Lateral Headings	133	8	-	-	141
Control Structures	97	4	1	-	102
Bridges	5		21	4	30
Siphons	24	1	-	-	25
Moss Pipes	5	-	-	2	7
Storm Spillways	4	4	-	-	8
Flumes	-	-	-	1	1
Total Divisions	519	32	24	7	582
All-American	145	-	-	-	145
Total Main Canals	664	32	24	7	727
<u>Lateral Canals - Divisions</u>					
Deliveries	5 229	127	25	1	5 382
Checks	3 174	163	19	-	3 356
Lateral Headings	326	24	1	-	351
Control Structures	682	48	19	2	751
Bridges	29	4	27	1	61
Siphons	126	2	-	4	132
Moss Pipes	118	-	4	1	123
Flumes	1	-	-	-	1
Storm Spillways	32	4	-	-	36
Total Lateral Canals	9,717	372	95	9	10,193
<u>Drains</u>					
Control Structures	427	9	12	2	450
Bridges	2		32		34
Siphons	1 304	11	5	39	1 359
Flumes	3	-	35	1	39
Outlets	214	-	-	-	214
Spillways	21	-	-	-	21
Maintenance Crossings	352	-	-	-	352
Deliveries - Pump	2	-	-	-	2
Deliveries	4	-	-	-	4
Checks	1	-	-	-	1
Total Drains	2,330	20	84	42	2,476

LOCATION OF CONTROL DROPS IN ALAMO AND NEW RIVERS

LOCATION OF CONTROL DROPS IN ALAMO RIVER

Alamo River Drop No. 2, near center N.E. 1/4 Section 12, 12-14, was installed in 1959.

Alamo River Drop No. 3, northwest corner Section 29, 12-14, was installed in 1960.

Alamo River Drop No. 3-A is located immediately east of the existing North End Dam, northwest corner Section 29, 12-14, was installed in 1967.

Alamo River Drop No. 4 is located immediately west of railroad bridge, near east line Tract 170, Section 3, 13-14, and was installed in 1966.

Alamo River Drop No. 5, northwest corner Tract 180, Section 12, 13-14, was installed in 1960.

Alamo River Drop No. 6, southwest corner Section 30, 13-15, was installed in 1961.

Alamo River Drop No. 6-A, southeast corner Tract 155, Section 18, 14-15, was installed in 1974.

Alamo River Drop No. 7, near center Tract 55, Section 30, 14-15, was installed in 1958.

Alamo River Drop No. 8, center E. 1/2, S.W. 1/4, Section 5, 15-15, was installed in 1958.

Alamo River Drop No. 9, S.E. 1/4, N.E. 1/4 Section 20, 15-15, was installed in 1958.

Alamo River Drop No. 10, west line Lot 20, Section 21, 15-15, was installed in 1958.

Alamo River Drop No. 12, Tract 72, Section 26, 15-15, was installed in 1967.

Alamo River Drop No. 13, southwest corner Tract 65, Section 36, 15-15, was installed in 1967.

LOCATION OF CONTROL DROPS IN NEW RIVER

New River Drop No. 2, center Tract 139, Section 9, 13-14, was installed in 1973.

New River Drop No. 3, northwest corner Tract 92, Section 21, 13-14, was installed in 1964.

New River Drop No. 4, near west line Lot 4, Section 32, 13-14, was installed in 1965.

**WATER DISTRIBUTION
AND QUALITY ANALYSIS REPORTS**

IMPERIAL IRRIGATION DISTRICT
ANNUAL SUMMARY
WATER DIVERSION, TRANSPORTATION, DISTRIBUTION, AND DRAINAGE
UNITED STATES AND MEXICO
YEARS OF 1985 AND 1984

WATER DIVERSION

	<u>1985</u>	<u>1984</u>	
<u>COLORADO RIVER:</u>			
<u>Grand Canyon:</u>			
Discharge - Year	16,799,900	20,174,400	A.F.
<u>Hoover Dam:</u>			
Reservoir Elevation - December 31	1205.49	1207.90	Feet
Maximum Reservoir Elevation	1214.35	1213.71	Feet
Available Storage - December 31	23,721,000	24,081,000	A.F.
Maximum Available Storage	25,060,000	24,962,000	A.F.
Loss in Storage - Year	360,000	670,000	A.F.
Daily Discharge - Maximum	35,500 (1-7)	37,500 (6-25)	C.F.S.
- Minimum	11,800 (10-19)	15,600 (9-2)	C.F.S.
- Mean	23,798	29,495	C.F.S.
Discharge - Year	17,229,200	21,411,900	A.F.
<u>Davis Dam:</u>			
Storage - December 31	1,409,700	1,506,000	A.F.
Loss in Storage - Year	96,300	153,000	A.F.
Daily Discharge - Maximum	29,000 (5-29)	35,900 (6-6)	C.F.S.
- Minimum	15,100 (10-28)	19,300 (10-18)	C.F.S.
- Mean	23,987	29,834	C.F.S.
Discharge - Year	17,365,800	21,658,200	A.F.
<u>Parker Dam:</u>			
Storage - December 31	585,900	581,000	A.F.
Loss in Storage	(4,900)	(49,300)	A.F.
Daily Discharge - Maximum	26,900 (3-2)	33,200 (7-28)	C.F.S.
- Minimum	12,300 (12-3)	23,100 (1-3)	C.F.S.
- Mean	22,521	28,189	C.F.S.
Discharge - Year	16,304,600	20,463,900	A.F.
<u>Imperial Dam:</u>			
Diversions - All-American Canal	8,367,058	8,269,112	A.F.
- Gila Main	777,580	752,940	A.F.
Passing Imperial Dam	5,807,700	10,079,700	A.F.
Discharge - Year	14,952,338	19,101,752	A.F.
<u>Yuma - Below Yuma Main Spill:</u>			
Daily Discharge - Maximum	19,700 (2-6)	19,200 (7-23)	C.F.S.
- Minimum	2,700 (12-6)	9,030 (4-27)	C.F.S.
- Mean	9,466	14,617	C.F.S.
Discharge - Year	6,852,900	10,611,100	A.F.
<u>Morelos Dam:</u>			
Diversion to Alamo Canal	2,528,994	2,615,199	A.F.

WATER TRANSPORTATION

	<u>1985</u>	<u>1984</u>	
<u>All-American Canal:</u>			
*Received at Head	8,367,058	8,269,112	A.F.
*Diversions above Siphon Drop	62,847	55,034	A.F.
*Diversions at Siphon Drop	328,058	311,022	A.F.
<u>Pilot Knob Power Plant:</u>			
*Y.C.W.U.A. Transfer	1,055,855	1,078,590	A.F.
*Imperial Irrigation District	3,659,836	3,598,874	A.F.
*Total Diversion to Power Plant	4,855,756	4,864,744	A.F.
*Diversion to Pilot Knob Spillway	140,065	187,280	A.F.
<u>Discharge Below Pilot Knob:</u>			
For C.V.W.D.	336,063	358,546	A.F.
For Imperial Irrigation District	2,678,381	2,687,114	A.F.
Total	3,014,444	3,045,660	A.F.
Loss - Imperial Dam to Pilot Knob	105,953	7,348	A.F.
<u>Loss - P.K. to Drop No. 1:</u>			
For C.V.W.D.	8,950	6,208	A.F.
For Imperial Irrigation District	61,505	39,829	A.F.
Total	70,455	46,037	A.F.
Diversion to Coachella Canal	327,113	352,338	A.F.
Discharge below Drop No. 1	2,616,876	2,647,285	A.F.
Daily Discharge Below Drop No. 1			
- Maximum	5,915 (4-10)	5,803 (4-12)	C.F.S.
- Minimum	319 (12-11)	350 (12-30)	C.F.S.
- Mean	3,615	3,647	C.F.S.
Divisions above E.H.L. Check	1,150,980	1,136,484	A.F.
Discharge below E.H.L. Check	1,431,414	1,478,806	A.F.
Loss - Drop No. 1 to E.H.L. Check	34,482	31,995	A.F.
Divisions E.H.L. to W.S.M. Check	1,399,803	1,450,048	A.F.
Loss - E.H.L. to W.S.M. Check	31,611	28,758	A.F.
Loss - Pilot Knob to W.S.M. Check	127,598	100,582	A.F.

*Daily report from All-American Canal, River Division

WATER DISTRIBUTION

UNITED STATES:

I. Main All-American Canal:

Division	Net Received		A C R E		F E E T		Deliveries to Users 1985	Canal Loss and Unaccounted For 1985	1984
	1985	A	1985	B	1984	C			
East Mesa	6,247	4,346				6,247	4,346		
Holtville	516,871	534,143		14		503,871	512,631	13,000	21,498
El Centro - Calexico	423,125	418,035				420,111	413,783	3,014	4,252
Imperial	373,715	391,255				360,392	374,171	13,323	17,084
Brawley	391,639	398,405				366,696	371,078	24,943	27,327
Westmorland	340,506	371,098	4,624	4,174		326,299	352,481	9,583	14,443
Calipatria	362,150	370,326				351,681	357,838	10,469	12,488
Total	2,414,253	2,487,608	4,624	4,188		2,335,297	2,386,328	74,332	97,092
% of Net Received	100.00	100.00	0.19	0.17		96.73	95.93	3.08	3.90

2. Main Canal Operational Loss:

		1985	1984
All-American Canal - Alamo Spillway			A.F.
- New River Spillway		84	268
Dahlia Spillway			A.F.
No. 4 Spillway		59	143
Dixie Spillway			41
Vail Spillway - New River		267	75
Vail Supply to Alamo - Above North End Dam		1,525	1,035
Rositas - at Rose Heading			A.F.
East Highline at "Z" Spillway		4,573	3,471
Total		6,508	5,033

3. Operational Loss Recovered:

A. From Main Canals			A.F.
B. From Divisions - Rositas		5,705	4,643
C. From Divisions - Vail		99	598

WATER DISTRIBUTION

	1985		1984	
	Acre-Feet	% Colo. at Imp. Dam	Acre-Feet	% Colo. at Imp. Dam
4. Discharge below Pilot Knob (I.I.D.)	2,678,381	17.91	2,687,114	14.07
		<u>% Disch. Below Pilot Knob</u>		<u>% Disch. Below Pilot Knob</u>
5. Net Operational Loss from Divisions (Item 1B minus 3A and 3B)	(1,180)	(0.04)	(1,053)	(0.04)
6. Net Operational Loss from Main Canals (Item 2)	6,508	0.24	5,033	0.19
7. Net Deliveries from Main Canals (Item 1A minus 3A and 3B)	2,408,449	89.92	2,482,367	92.38
8. Total Diversions from Main Canals (Item 6 plus 7)	2,414,957	90.16	2,487,400	92.57
9. Total Canal Loss and Unaccounted for - Main Canals (Item 4 minus 8)	263,424	9.84	199,714	7.43
10. Total Canal Loss and Unaccounted for - Entire System (Item 1D plus 9)	337,756	12.61	296,806	11.04
11. Total Deliveries to Users (Item 1C)	2,335,297	87.19	2,386,328	88.81

Note: "Unaccounted for" represents, in part, water delivered through approximately 1,834 service pipes which are unmeasured.

INFLOW TO SALTON SEA

	<u>1985</u>	<u>1984</u>	
<u>Alamo Channel:</u>			
*Crossing Line from Mexico	1,867	1,831	A.F.
Main Canal Operational Loss	1,525	1,035	A.F.
Division Operational Loss	(5,804)	(5,227)	A.F.
Drainage	511,959	566,278	A.F.
Metered at Outlet	509,547	563,917	A.F.
<u>New River Channel:</u>			
*Crossing Line from Mexico	260,238	267,904	A.F.
Main Canal Operational Loss	410	527	A.F.
Division Operational Loss			A.F.
Drainage	228,884	243,829	A.F.
Metered at Outlet	489,532	512,260	A.F.
<u>Direct to Sea:</u>			
Main Canal Operational Loss	4,573	3,471	A.F.
Division Operational Loss	4,624	4,174	A.F.
Drainage	84,670	80,947	A.F.
Total	93,867	88,592	A.F.
<u>Summary:</u>			
*Crossing Line from Mexico	262,105	269,735	A.F.
Main Canal Operational Loss	6,508	5,003	A.F.
Division Operational Loss	(1,180)	(1,053)	A.F.
Drainage	825,513	891,054	A.F.
Total to Sea	1,092,946	1,164,769	A.F.

ELEVATION OF THE SALTON SEA:

<u>December 30, 1985</u>	<u>December 31, 1984</u>
-226.85	-226.70

() Gain

*Computed from Meter Stations at the Boundary.

TONS OF SEDIMENT REMOVED BY DESILTING BASINS AT IMPERIAL DAM

<u>Year</u>	<u>Sediment</u>	<u>High Month</u>	<u>Total Tons</u>	<u>Low Month</u>	<u>Total Tons</u>
1961	196 553	July	58 635	December	144
1962	337 927	July	81 120	December	338
1963	515 033	July	100 802	December	551
1964	392 573	July	120 565	December	331
1965	433 468	August	143 109	January	439
1966	542 921	July	180 225	January	455
1967	318 777	August	92 033	December	259
1968	459 410	March	130 290	December	481
1969	467 052	April	98 337	December	264
1970	445 798	April	180 957	November	858
1971	441 146	April	122 157	January	1 088
1972	439 086	April	138 713	December	1 351
1973	481 774	April	181 326	February	1 169
1974	626 447	April	201 486	January	1 103
1975	470 161	April	132 456	November	994
1976	556 506	April	199 599	January	1 276
1977	530 026	July	150 466	December	1 651
1978	522 696	July	154 504	January	461
1979	646 766	July	201 383	January	176
1980	3 535 757*	July	1 331 953*	January	1 436
1981	455 671	August	145 520	October	75
1982	39 475	April	100 176	December	75
**1983	1 104 265*	May	389 891	March	1 406
1984	***				
1985	1 652 685	June	358 422	December	43 803

*Caused by extreme high river release

**July-Dec. - Due to high water in Colorado River, the sediment pipes were submerged and no samples were taken.

***Due to continued high river releases during 1984, no samples could be taken

PERCENT OF WATER RECEIVED AT PILOT KNOB CHECK

DELIVERED TO USERS - ACRE-FEET

<u>Year</u>	<u>Acre-Feet Received at Pilot Knob Check</u>	<u>Acre-Feet Delivered to Users</u>	<u>Percent Delivered to Users</u>
1968	2 864 151	2 475 825	86.44
1969	2 714 487	2 351 578	86.63
1970	2 807 817	2 418 439	86.13
1971	2 938 783	2 534 599	86.25
1972	2 903 491	2 531 343	87.18
1973	3 008 661	2 670 313	88.75
1974	3 133 038	2 777 221	88.64
1975	3 046 890	2 703 706	88.74
1976	2 831 443	2 515 265	88.83
1977	2 717 201	2 454 750	90.34
1978	2 714 988	2 440 701	89.90
1979	2 843 730	2 570 856	90.40
1980	2 817 121	2 519 695	89.44
1981	2 839 495	2 499 761	88.04
1982	2 565 475	2 248 235	87.63
1983	2 509 289	2 180 243	86.89
1984	2 687 114	2 386 328	88.81
1985	2 678 381	2 335 297	87.19

IMPERIAL IRRIGATION DISTRICT
ALL-AMERICAN CANAL ANNUAL DISTRIBUTION IN ACRE-FEET

	<u>1985</u>	<u>1984</u>	<u>1983</u>
<u>Station 60 to Drop 1</u>			
<u>Discharge Station 60</u>			
IID	2,717,806	2,682,749	2,562,222
CVWD	341,303	358,090	363,685
Yuma	1,463,306	1,444,361	1,462,376
Pilot Knob (IID Power)	3,844,643	3,783,912	3,406,098
Total	<u>8,367,058</u>	<u>8,269,112</u>	<u>7,794,381</u>
<u>Diversions Station 60 to 1117</u>			
Bard	62,847	55,034	50,132
Siphon Drop and Walapai	328,058	311,022	286,226
<u>Pilot Knob</u>			
YCWUA	1,055,855	1,078,590	1,097,751
IID (Power)	3,659,836	3,598,874	3,351,514
Spillway	<u>140,065</u>	<u>187,280</u>	<u>117</u>
Total to River	4,855,756	4,864,744	4,449,382
<u>Loss Station 60 to 1117</u>			
IID	39,425	(4,365)	52,933
CVWD	5,240	(456)	8,361
Yuma	16,546	(285)	28,267
Pilot Knob (IID Power)	44,742	(2,242)	54,467
Total	<u>105,953</u>	<u>(7,348)</u>	<u>144,028</u>
<u>Discharge Station 1117</u>			
IID	2,678,381	2,687,114	2,509,289
CVWD	336,063	358,546	355,324
Total	<u>3,014,444</u>	<u>3,045,660</u>	<u>2,864,613</u>
<u>Loss Station 1117 to Drop 1</u>			
IID	61,505	39,829	92,404
CVWD	8,950	6,208	13,598
Total	<u>70,455</u>	<u>46,037</u>	<u>106,002</u>

	<u>1985</u>	<u>1984</u>	<u>1983</u>
<u>Drop 1 to Westside Main</u>			
Diversion Coachella Turnout	327,113	352,338	341,726
Discharge below Drop 1	2,616,876	2,647,285	2,416,885
Diversion Drop 1 to EHL Check	1,150,980	1,136,484	1,048,841
Loss Drop 1 to EHL Check	34,482	31,995	28,009
Discharge below EHL Check	1,431,414	1,478,806	1,340,035
Diversions EHL Check to CM Check	788,491	808,270	740,586
Loss EHL Check to CM Check	21,431	20,438	17,335
Discharge below CM Check	621,492	650,098	582,114
Diversion to CM Check to WSM Check	611,312	641,778	570,980
Loss CM Check to WSM Check	10,180	8,320	11,134
<u>Station 60 to Westside Main</u>			
Diversion Station 60 to WSM	8,124,557	8,169,670	7,487,873
Loss Station 60 to WSM	242,501	99,442	306,508

ANNUAL STATEMENT OF DISTRIBUTION OF WATER
BY DIVISIONS - ACRE-FEET
1985

Division	Received from Main Canals	Percent	Canal Loss and Unaccounted for	Percent	Operational Loss		Percent	Delivered to Users	Percent
					Percent	Loss			
Holtville	516,871	100.00	13,000	2.52	—	—	—	503,871	97.48
El Centro-Calexico	423,125	100.00	3,014	.71	—	—	—	420,111	99.29
Imperial	373,715	100.00	13,323	3.57	—	—	—	360,392	96.43
Brawley	391,639	100.00	24,943	6.37	—	—	—	366,696	93.63
Westmorland	340,506	100.00	9,583	2.81	4,624	1.36	—	326,299	95.83
Calipatria	362,150	100.00	10,469	2.89	—	—	—	351,681	97.11
Total Divisions	2,408,006	100.00	74,332	3.09	4,624	.19	2,329,050	96.72	
East Mesa (Experimental Farm)	6,247	100.00	—	—	—	—	—	—	—
TOTALS	2,414,253	100.00	74,332	3.08	4,624	.19	2,335,297	96.73	
Duty in Acre-Feet Per Acre									5.10*

Note: *Water duty based on "Annual Inventory of Acres Receiving Water Service," Item "Net Area Irrigated," minus acres served from Coachella Canal

NUMBER WATER RUNS - ACRE-FEET OF WATER

DELIVERED TO USERS AND WATER SALES

<u>Year</u>	<u>No. Water Runs</u>	<u>Acre-Feet Water Delivered to Users</u>	<u>Water Sales</u>
1963	250 522	2 284 666	4 614 879
1964	258 100	2 398 693	4 818 068
1965	255 070	2 311 966	4 637 441
1966	252 920	2 470 268	4 945 585
1967	227 223	2 365 379	5 061 640
1968	239 036	2 475 825	5 678 158
1969	229 034	2 351 578	5 401 789
1970	231 235	2 418 439	5 539 925
1971	241 376	2 534 599	5 798 557
1972	171 375	2 531 343	5 782 168
1973	249 218	2 670 313	6 071 659
1974	250 882	2 777 221	7 393 908
1975	238 821	2 703 706	8 494 593
1976	219 724	2 515 265	9 506 431
1977	217 709	2 454 750	11 228 752
1978	200 013	2 440 701	11 663 741
1979	208 620	2 570 856	13 176 853
1980	202 175	2 519 695	15 256 800
1981	201 334	2 499 761	17 750 415
1982	184 574	2 248 235	17 075 806
1983	177 843	2 180 243	19 735 596
1984	193,696	2,386,328	21,995,877
1985	193,250	2,335,297	21,471,400

<u>Town or City</u>	<u>1985 Water Delivered Acre-Feet</u>	<u>1985 Population</u>
Calexico	4,720.0	16,928
Holtville	1,572.2	4,678
El Centro	6,993.0	27,300
Imperial	1,825.0	3,869
Brawley	6,979.6	17,636
Westmorland	1,048.0	1,851
Calipatria	1,161.2	2,683
Niland	895.6	1,042*
Seeley	344.0	1,058*
Heber	<u>335.0</u>	<u>2,221*</u>
Totals	25,873.6	79,266

Population figures from Imperial Irrigation District's Public Information and Community Services Section, January, 1986. From Imperial County Planning Department.

Source: State Department of Finance/Population Research Unit

*Imperial County 1980 Population Estimates

TOTAL INFLOW TO SALTON SEA

ACRE-FEET

Year	AAC below Drop No. 1	Delivered to Users	Salton Sea from IID*	Inflow to Salton Sea from Mexico	Total Inflow to Salton Sea from IID & Mexico	Inflow to Salton Sea from Coachella	Total Inflow to Salton Sea
1971	2 883 960	2 534 599	1 092 571	108 791	1 201 362	1/ 138 060	1 339 422
1972	2 846 613	2 531 343	1 063 537	112 600	1 176 137	1/ 148 020	1 324 157
1973	2 956 013	2 670 313	1 065 414	118 530	1 183 944	1/ 156 080	1 340 024
1974	3 072 327	2 777 221	1 123 492	113 066	1 236 558	1/ 151 680	1 388 238
1975	3 001 207	2 703 706	1 128 268	101 359	1 229 627	1/ 172 400	1 402 027
1976	2 783 630	2 515 265	1 084 993	103 959	1 188 952	1/ 189 820	1 378 772
1977	2 693 030	2 454 750	1 020 797	109 132	1 129 929	1/ 162 666	1 292 595
1978	2 671 798	2 440 701	995 674	99 704	1 095 378	1/ 149 788	1 245 166
1979	2 803 166	2 570 856	1 056 652	146 321	1 202 973	1/ 161 070	1 364 043
1980	2 769 495	2 519 695	1 043 241	157 975	1 201 216	1/ 192 400	1 393 616
1981	2 769 112	2 499 761	962 925	157 717	1 120 642	1/ 256 660	1 377 302
1982	2 515 637	2 248 235	888 575	159 099	1 047 674	1/ 250 190	1 297 864
1983	2 416 885	2 180 243	867 835	244 515	1 112 350	2/ 150 956	1 263 306
1984	2 647 285	2 386 328	895 034	269 735	1 164 769	2/ 140 985	1 305 754
1985	2 616 876	2 335 297	830 841	262 105	1 092 946	2/ 123 855	1 216 801

*Includes storm runoff

1/ Revised to conform to USGS Water Resources Data of California
 2/ Preliminary data from CVWD

ALL-AMERICAN CANAL BELOW DROP NO. 1 AND ANNUAL INFLOW TO SALTON SEA

IN ACRE-FEET

YEAR	ALL-AMERICAN CANAL BELOW DROP NO. 1	INFLOW TO SALTON SEA				TOTAL TO SALTON SEA
		I.I.D. PORTION	% OF DROP NO. 1	FROM MEXICO	% OF TOTAL TO SALTON SEA	
1953	3,353,244	1,345,998	40.14	32,424	2.35	1,378,422
1954	3,095,783	1,273,210	41.13	30,936	2.37	1,304,146
1955	2,927,165	1,069,809	36.55	48,900	4.37	1,118,709
1956	2,906,746	1,091,804	37.56	78,174	6.68	1,169,978
1957	2,781,792	1,011,379	36.36	72,607	6.70	1,083,986
1958	2,730,876	974,045	35.67	105,974	9.81	1,080,019
1959	2,840,173	1,020,963	35.95	123,643	10.80	1,144,606
1960	2,983,860	1,059,804	35.52	123,233	10.42	1,183,037
1961	2,957,200	1,050,700	35.53	116,826	10.01	1,167,526
1962	2,951,266	1,088,965	36.90	133,884	10.95	1,222,849
1963	2,991,429	1,153,827	38.57	141,064	10.89	1,294,891
1964	2,770,474	905,153	32.67	106,921	10.56	1,012,074
1965	2,624,363	882,962	33.64	113,137	11.36	996,099
1966	2,817,912	1,004,685	35.65	104,503	9.42	1,109,188
1967	2,719,861	1,027,970	37.79	98,455	8.74	1,126,425
1968	2,806,124	1,001,027	35.67	107,488	9.70	1,108,515
1969	2,675,833	962,639	35.98	104,907	9.83	1,067,546
1970	2,754,898	1,020,503	37.04	101,316	9.03	1,121,819
1971	2,883,960	1,092,571	37.88	108,791	9.06	1,201,362
1972	2,846,613	1,063,537	37.36	112,600	9.57	1,176,137
1973	2,956,013	1,065,414	36.04	118,530	10.01	1,183,944
1974	3,072,327	1,123,492	36.57	113,066	9.14	1,236,558
1975	3,001,207	1,128,268	37.59	101,359	8.24	1,229,627
1976	2,783,630	1,084,993	38.98	103,959	8.74	1,188,952
1977	2,693,030	1,020,797	37.91	109,132	9.66	1,129,929
1978	2,671,798	995,674	37.27	99,704	9.10	1,095,378
1979	2,803,166	1,056,652	37.70	146,321	12.16	1,202,973
1980	2,769,495	1,043,241	37.67	157,975	13.15	1,201,216
1981	2,769,112	962,925	34.77	157,717	14.07	1,120,642
1982	2,515,637	888,575	35.32	159,099	15.19	1,047,674
1983	2,416,885	867,835	35.91	244,515	21.98	1,112,350
1984	2,647,285	895,034	33.81	269,735	23.16	1,164,769
1985	2,616,876	830,841	31.75	262,105	23.98	1,092,946

INFLOW TO SALTON SEA - I.I.D. PORTION

	Percent of Drop No. 1														
	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>
January	49.0	50.1	48.0	60.6	49.9	46.9	49.0	85.9	79.6	56.7	56.1	41.4	38.2	38.4	45.5
February	44.7	46.3	51.5	39.1	43.5	55.8	37.9	38.0	43.9	70.9	38.1	37.1	56.0	34.2	37.5
March	40.7	36.1	37.1	39.3	38.5	36.5	34.3	36.9	38.2	38.0	38.4	37.4	46.4	32.3	32.6
April	34.6	33.9	34.4	33.6	37.8	38.3	34.0	35.2	34.9	36.6	34.4	31.7	33.4	31.8	28.0
May	34.9	32.5	33.7	33.7	35.2	36.2	34.4	35.1	36.3	36.9	34.1	33.5	30.6	30.9	28.8
June	31.7	30.6	30.8	31.4	33.9	30.7	29.6	29.2	29.6	31.0	27.9	29.2	27.9	26.3	25.0
July	29.4	28.0	27.0	29.8	30.4	28.7	26.8	28.3	30.4	28.9	26.6	25.7	24.4	30.3	24.3
August	34.1	29.1	28.5	29.8	29.9	27.5	60.9	29.9	33.2	30.7	30.2	27.7	33.2	28.4	24.1
September	38.7	36.1	33.0	36.5	38.5	58.7	36.3	36.1	35.8	34.5	33.0	35.2	35.7	33.6	35.0
October	44.5	57.8	40.0	43.1	42.1	44.4	43.1	48.1	42.5	40.7	37.1	35.8	38.5	39.7	36.7
November	45.8	51.6	45.1	48.5	46.9	57.1	45.6	51.4	47.7	48.9	46.5	47.4	44.6	47.9	50.0
December	47.8	46.9	59.2	51.3	49.5	49.0	52.1	65.4	48.7	47.1	46.4	101.7	51.2	69.9	64.8
Yearly Average	38.6	37.7	36.7	37.0	38.4	39.3	38.1	37.5	37.9	37.9	35.2	35.6	36.2	34.0	32.0

SALINITY OF WATER BELOW DROP 1 ON ALL-AMERICAN CANAL

<u>Year</u>	<u>*Aver. t.a.f.</u>	<u>Total Tons (Millions)</u>	<u>Year</u>	<u>*Aver. t.a.f.</u>	<u>Total Tons (Millions)</u>
1955	1.17	3.4	1971	1.27	3.7
1956	1.27	3.7	1972	1.24	3.5
1957	1.22	3.4	1973	1.18	3.5
1958	1.00	2.7	1974	1.19	3.7
1959	1.00	2.9	1975	1.19	3.6
1960	1.06	3.2	1976	1.17	3.3
1961	1.13	3.3	1977	1.13	3.0
1962	1.15	3.4	1978	1.08	2.9
1963	1.13	3.4	1979	1.15	3.2
1964	1.19	3.3	1980	1.10	3.1
1965	1.30	3.4	1981	1.15	3.2
1966	1.30	3.7	1982	1.16	2.9
1967	1.22	3.3	1983	1.05	2.5
1968	1.21	3.4	1984	1.00	2.7
1969	1.00	2.7	1985	0.94	2.5
1970	1.27	3.5			

*Weighted Average, Salt Concentrations

SUMMARY OF SALT BALANCE
EXCLUDING WATER AND SALT FROM MEXICO

Year	Total Discharge AF	INFLUENT 1/ Tons of Salt Brought Into the Area		EFFLUENT Tons of Salt Removed		Salt Diff.		Percent Loss or Gain
		T.A.F.	Average 2/ p.p.m.	Total Discharge AF	Average 2/ p.p.m.	T.A.F.	p.p.m.	
1958	2 730 876	2 723 153	1.00	735	974 045	3 341 376	3.43	22.70 gain
1959	2 840 173	2 852 019	1.00	735	1 020 963	3 401 652	3.33	19.27 gain
1960	2 983 860	3 162 485	1.06	779	1 059 804	3 558 534	3.36	12.52 gain
1961	2 957 200	3 330 087	1.13	831	1 050 700	3 572 808	3.40	7.29 gain
1962	2 951 266	3 399 464	1.15	845	1 088 965	3 806 946	3.50	11.99 gain
1963	2 991 429	3 378 583	1.13	831	1 153 827	4 050 087	3.51	19.88 gain
1964	2 770 474	3 284 284	1.19	875	905 153	3 635 121	4.02	10.68 gain
1965	2 624 363	3 406 457	1.30	955	882 962	3 819 255	4.33	12.12 gain
1966	2 817 912	3 650 447	1.30	955	1 004 685	4 148 874	4.13	13.65 gain
1967	2 719 861	3 306 261	1.22	897	1 027 970	4 139 477	4.03	25.20 gain
1968	2 806 124	3 408 548	1.21	889	1 001 027	4 012 009	4.01	17.70 gain
1969	2 675 833	3 396 105	1.27	933	962 639	3 754 477	3.90	10.55 gain
1970	2 754 898	3 488 023	1.27	933	1 020 503	3 780 732	3.70	8.39 gain
1971	2 883 969	3 666 277	1.27	933	1 092 571	3 900 990	3.57	6.40 gain
1972	2 846 613	3 541 248	1.24	911	1 063 537	3 886 592	3.65	9.75 gain
1973*	2 956 013	3 492 199	1.18	867	1 065 414	3 980 338	3.74	13.98 gain
1974*	3 072 327	3 669 832	1.19	875	1 123 492	4 204 158	3.74	14.56 gain
1975*	3 001 207	3 581 043	1.19	875	1 128 268	4 196 407	3.72	17.18 gain
1976*	2 783 630	3 263 454	1.17	860	1 084 993	4 361 658	4.02	33.68 gain
1977*	2 693 030	3 039 155	1.13	831	1 020 797	4 187 227	4.10	37.78 gain
1978*	2 671 798	2 897 906	1.08	797	995 674	3 824 323	3.84	31.97 gain
1979*	2 803 166	3 216 228	1.15	843	1 056 652	3 998 131	3.78	24.31 gain
1980*	2 769 495	3 058 785	1.10	812	1 043 241	3 988 611	3.82	30.40 gain
1981*	2 769 112	3 192 402	1.15	847	962 925	3 825 050	3.97	19.82 gain
1982*	2 515 637	2 918 781	1.16	853	888 575	3 608 490	4.06	23.63 gain
1983*	2 416 885	2 538 349	1.05	772	867 835	3 333 260	3.84	31.32 gain
1984*	2 647 285	2 654 712	1.00	737	895 034	3 360 256	3.75	26.58 gain
1985*	2 616 876	2 468 408	0.94	691	830 841	3 296 232	3.97	33.54 gain

Note: Part of the water in Alamo River from Mexico was used for irrigation in U.S. prior to January 4, 1958.

1/ Based on weekly samples at All-American Canal Station 2963 (East Highline Check) 1958 through 1972

2/ p.p.m. = $735 \times T.A.F.$

Prior to January 1, 1970, all salt concentrations were obtained by evaporation and drying at 105°C.

Subsequent to January 1, 1970, concentrations were obtained by drying at 180°C.

*Based on weekly samples at All-American Canal below Drop 1

SALINITY - SALTON SEA

Year	Total Dissolved* Solids p.p.m.	Total Dissolved* Solids t.a.f.	Year	Total Dissolved* Solids p.p.m.	Total Dissolved* Solids t.a.f.
1960	35	366	1973	39	186
1961	35	303	1974	39	183
1962	35	122	1975	38	973
1963	35	998	1976	38	528
1964	36	727	1977	38	461
1965	36	835	1978	38	141
1966	36	339	1979	38	423
1967	38	120	1980	37	616
1968	38	540	1981	38	451
1969	40	009	1982	39	897
1970	38	583	1983	39	479
1971	39	150	1984	40	335
1972	39	013	1985	40	021

* Average of total parts per million of samples taken at Bertram Station, Desert Beach, Sandy Beach, and Salton Sea Beach for each respective year.

** p.p.m. x .00136 = T.A.F.

Note: Sample taken between the Alamo and New Rivers has been excluded due to possible influence of fresh water from rivers on salinity determination of the Sea.

All samples are surface samples taken in May and November of each year.

Parts per million were determined by evaporation, dried at 105°C prior to January 1, 1970, and dried at 180°C subsequent to January 1, 1970.

COMPETE ANALYSES SALTON SEA
(Surface Samples)

1985

Date of Sample	Sandy Beach				Desert Beach				Salton Sea Beach				Bertram Station				Between Alamo & New River Outlets			
	5-13-85	11-11-85	5-13-85	11-11-85	5-13-85	11-11-85	5-13-85	11-11-85	5-13-85	11-11-85	5-13-85	11-11-85	5-13-85	11-11-85	5-13-85	11-11-85	5-13-85	11-11-85		
<u>CATIONS</u>																				
Ca	ppm epm % epm	2,338 116.67 20	1,002 50.00 9	2,444 121.96 23	1,015 50.67 9	1,115 55.64 9	1,015 50.67 9	3,272 163.27 30	1,082 54.00 10	3,188 159.08 30	1,122 56.00 11									
Mg	ppm epm % epm	1,269 104.36 17	1,216 100.00 17	1,022 84.05 61	1,216 100.00 18	1,505 123.77 19	1,200 98.67 18	1,138 93.59 17	1,224 100.67 18	1,138 93.59 17	1,119 92.00 17									
Na + K	ppm epm % epm	8,741 375.20 63	9,670 420.47 74	7,542 324.10 16	9,429 410.02 73	10,570 453.88 72	9,454 411.10 73	6,724 288.12 53	9,339 406.08 72	6,681 285.59 53	6,893 386.71 72									
<u>ANIONS</u>																				
HCO ₃ + CO ₃	ppm epm % epm	199 3.26 1	182 2.98 1	205 3.36 1	182 2.98 1	171 2.80 1	182 2.98 1	192 3.15 1	182 2.98 1	182 2.98 1	189 3.69 1									
Cl	ppm epm % epm	15,800 445.56 71	17,248 486.45 85	15,000 423.00 73	16,898 476.58 85	15,897 448.30 70	16,898 476.58 85	13,700 386.34 71	16,898 476.58 85	14,600 411.72 71	15,998 451.20 84									
SO ₄	ppm epm % epm	8,284 172.47 28	3,892 81.04 14	7,447 155.05 26	3,897 81.13 14	9,000 167.38 29	3,884 80.88 14	7,211 150.13 28	3,900 81.19 14	7,929 165.08 28	3,862 80.41 15									
Total	epm	1,217.52	1,140.94	1,111.52	1,121.38	1,271.77	1,120.88	1,084.60	1,121.50	1,118.75	1,069.42									
T.D.S.*	ppm t.a.f.	39,937 54.31	41,700 56.71	39,502 55.72	41,110 55.91	39,207 53.32	41,040 55.81	36,734 49.96	40,938 55.68	39,455 53.66	38,342 52.15									
K x 10 ⁶ at 25°C	-	51,010 7.5	-	51,010 8.0	-	-	51,010 8.0	-	51,010 8.0	-	51,010 8.0									
ph																				

*By evaporation

Imperial Irrigation District
Salton Sea
Summary of Observations at Evaporation Stations

1985

Month	Sandy Beach			Devil's Hole			Salt Farm												
	Mean Temp. <u>Max.</u>	Mean Avg. <u>Temp.</u>	Total Rain Wind Miles	Mean Temp. <u>Max.</u>	Total Rain Wind Miles	Mean Temp. <u>Max.</u>	Total Rain Wind Miles	Mean Temp. <u>Max.</u>	Avg. Pan Evap. Inches										
	Min. <u>Max.</u>	Avg. <u>Temp.</u>	Total Rain Wind Miles <u>Inches</u>	Min. <u>Max.</u>	Total Rain Wind Miles <u>Inches</u>	Min. <u>Max.</u>	Total Rain Wind Miles <u>Inches</u>	Min. <u>Max.</u>	Pan Evap. Inches										
Jan.	60.2	43.0	51.6	1664.3	0.00	3.02	67.2	42.0	54.6	1037.7	0.17	2.68	66.3	43.1	54.7	-	0.00	2.90	2.87
Feb.	62.3	42.6	52.5	1183.1	0.05	3.54	70.7	40.6	55.7	1021.2	0.06	2.94	70.1	41.6	55.9	-	0.02	3.38	3.29
March	76.5	50.5	63.5	-	0.00	6.51	77.7	46.5	62.1	1684.4	0.00	4.78	75.9	47.7	61.8	2332.9	0.00	4.80	5.36
April	88.4	60.2	74.3	-	0.00	9.37	88.6	54.6	71.6	1523.3	0.00	6.06	88.7	56.7	72.7	2247.0	0.00	7.80	7.74
May	92.3	65.0	78.7	-	0.00	11.91	92.8	61.1	77.0	1760.7	0.00	7.85	94.5	61.6	78.1	2473.7	0.00	9.88	9.88
June	103.2	74.3	88.8	2912.0	0.00	13.04	101.8	68.0	84.9	1293.0	0.00	8.24	105.9	70.0	88.0	2092.3	0.00	10.76	10.68
July	104.2	80.6	92.4	3222.4	0.28	12.48	104.4	77.8	91.1	1636.0	0.00	8.69	106.7	79.4	93.1	2369.3	0.06	11.61	10.93
Aug.	104.1	77.5	90.8	2994.0	0.00	12.59	103.8	72.5	88.2	1506.0	0.00	8.98	107.1	75.3	91.2	2094.0	0.00	11.04	10.87
Sept.	92.9	67.1	80.0	3454.5	0.81	10.30	92.9	64.0	78.5	1790.9	0.59	7.48	92.9	64.8	78.9	2052.8	0.92	8.04	8.61
Oct.	88.4	62.2	75.3	2503.8	0.00	7.01	88.4	59.8	74.1	1446.6	0.00	5.54	86.9	60.0	73.5	1825.9	0.00	6.33	6.29
Nov.	73.0	50.5	61.8	2535.3	0.94	4.40	73.6	45.7	59.7	1081.3	1.46	1.91	71.8	45.9	58.9	1675.1	0.47	3.63	3.31
Dec.	69.9	46.8	58.4	1256.0	0.49	2.22	68.8	39.6	54.2	920.7	0.31	1.92	67.5	41.2	54.4	905.3	0.41	2.07	2.07
Totals	1015.4	720.3	868.1	21,725.4	2.57	96.39	1030.7	672.2	851.7	16,701.8	2.59	67.07	1034.3	687.3	861.2	20,068.3	1.88	82.24	81.90
Mean	84.6	60.0	72.6	2413.9	8.03	85.9	56.0	71.0	1391.8	5.59	86.2	57.3	71.7	2006.8	6.85	6.83			

Note: Tabulated evaporation is that observed in the pan and has not been corrected for pan factor or salinity.
Evaporation measured from 2-foot diameter x 3-foot deep buried plastic screen pan - 1/4-inch mesh screen

NET INFLOW TO SALTON SEA

1985

Date	Measured Pan Evaporation		Sea Evaporation <u>(3)</u> Acre-Feet	IID Inflow to Sea <u>(4)</u> Acre-Feet	Total Inflow to Sea <u>(5)</u> Acre-Feet	Difference Inflow-Evap. <u>(6)</u> Acre-Feet
	(1) Inches	(2) Feet				
Jan.	2.87	0.24	38,000	69,200	73,400	35,400
Feb.	3.29	0.27	42,800	82,900	88,000	45,200
March	5.36	0.45	71,400	104,200	110,600	39,200
April	7.74	0.65	103,100	114,800	121,800	18,700
May	9.88	0.82	130,000	108,100	114,700	(15,300)
June	10.68	0.89	141,200	84,400	89,500	(51,700)
July	10.93	0.91	144,300	88,200	93,600	(50,700)
Aug.	10.87	0.91	144,300	93,700	99,400	(44,900)
Sept.	8.61	0.72	114,200	95,200	101,000	(13,200)
Oct.	6.29	0.52	82,500	95,000	100,800	18,300
Nov.	3.31	0.28	44,400	90,800	96,300	51,900
Dec.	2.07	0.17	27,000	66,400	70,500	43,500
TOTAL	81.90	6.83	1,083,200	1,092,900	1,159,600	76,400

(3) = (2) x 0.65 (pan factor) x 244,000 Ac. (Sea surface area)

(5) = (4) x 1.061 (estimated factor to include Coachella Area inflow to Sea)

Note: Pan evaporation in feet was carried to 4 decimal places in calculating sea evaporation (Column 3)
Acre-feet rounded to the nearest 100

() Denotes loss through evaporation

SALTON SEA EVAPORATION

Screened Evaporation Pans

(Averages for 3 Weather Stations)

Reported Actual Evaporation in Feet^{1/}

	<u>25-Yr. Avg.</u>	<u>1984</u>	<u>1985</u>	<u>1985 Difference</u>	
	<u>1958-1983</u>			<u>From Avg.</u>	<u>From 1984</u>
January	0.29	0.28	0.24	-0.05	-0.04
February	0.35	0.33	0.27	-0.08	-0.06
March	0.58	0.56	0.45	-0.13	-0.11
April	0.79	0.73	0.65	-0.14	-0.08
May	0.98	0.83	0.82	-0.16	-0.01
June	1.07	0.88	0.89	-0.18	0.01
July	1.09	0.79	0.91	-0.18	0.12
August	1.05	0.76	0.91	-0.14	0.15
September	0.87	0.74	0.72	-0.15	-0.02
October	0.66	0.63	0.52	-0.14	-0.11
November	0.42	0.33	0.28	-0.14	-0.05
December	0.31	0.18	0.17	-0.14	-0.01
TOTAL	8.46	7.04	6.83	-1.63	-0.21

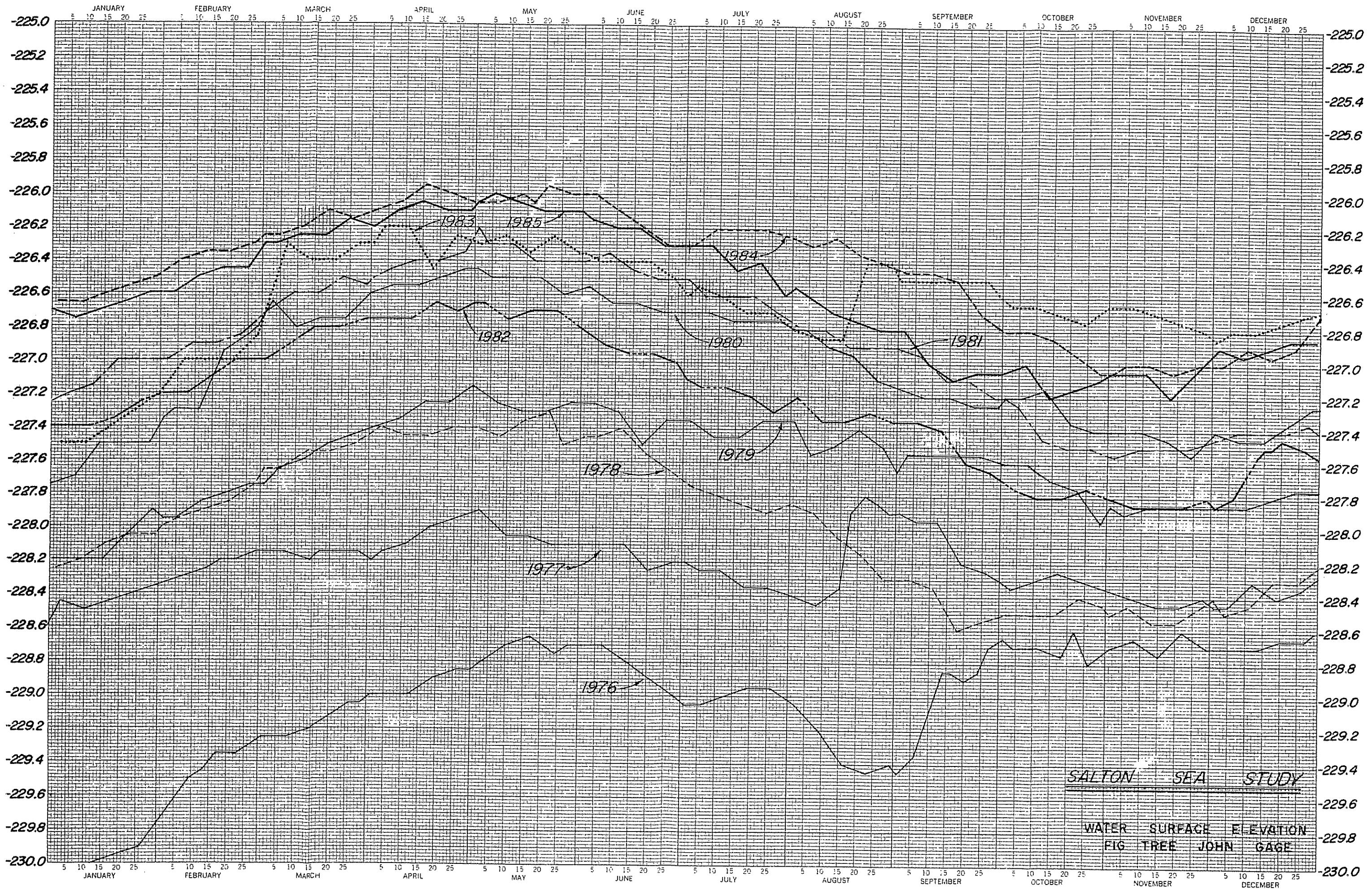
1/ Observed pan evaporation plus rainfall

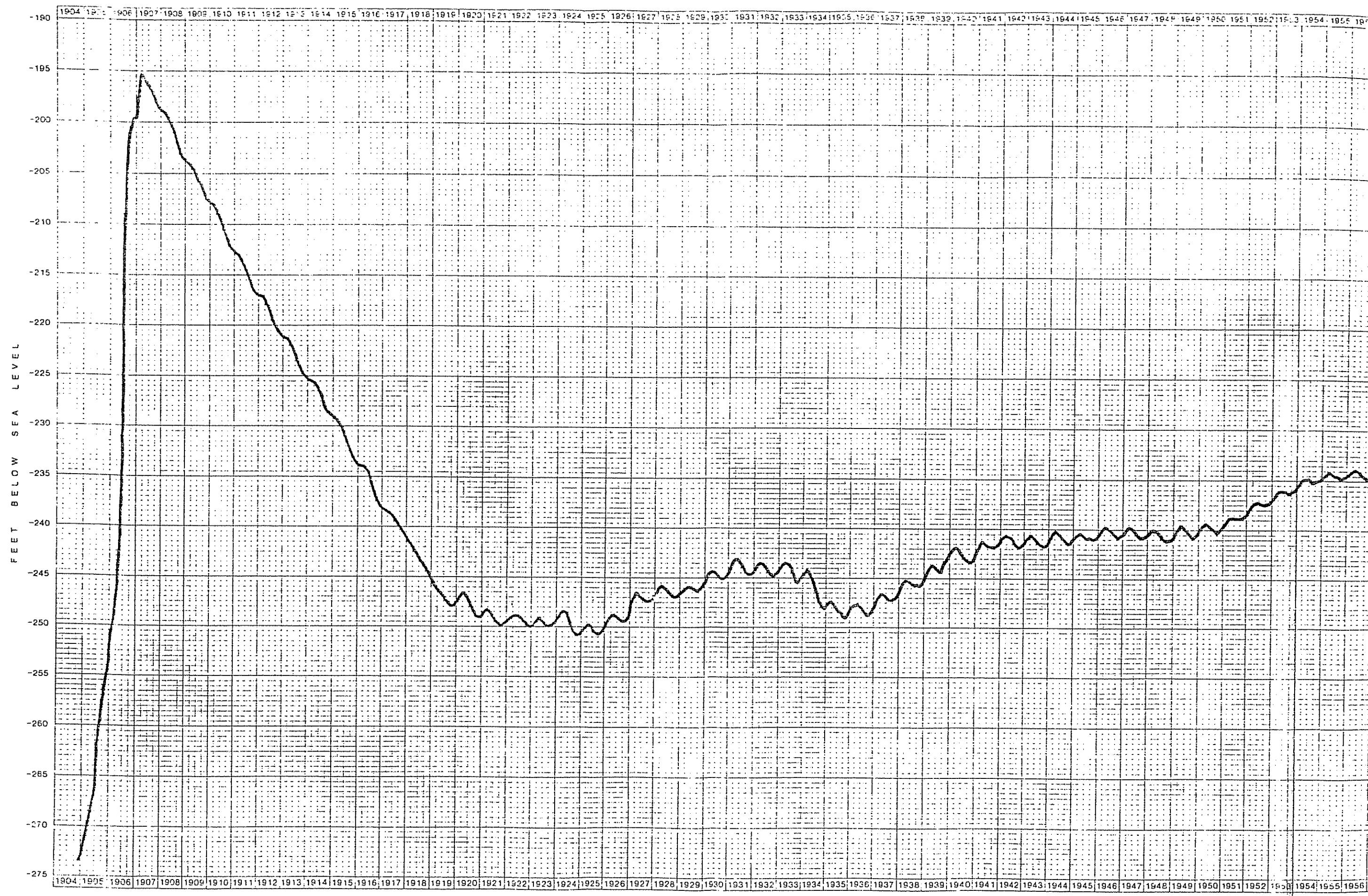
ELEVATION OF SALTON SEA IN FEET BELOW SEA LEVEL

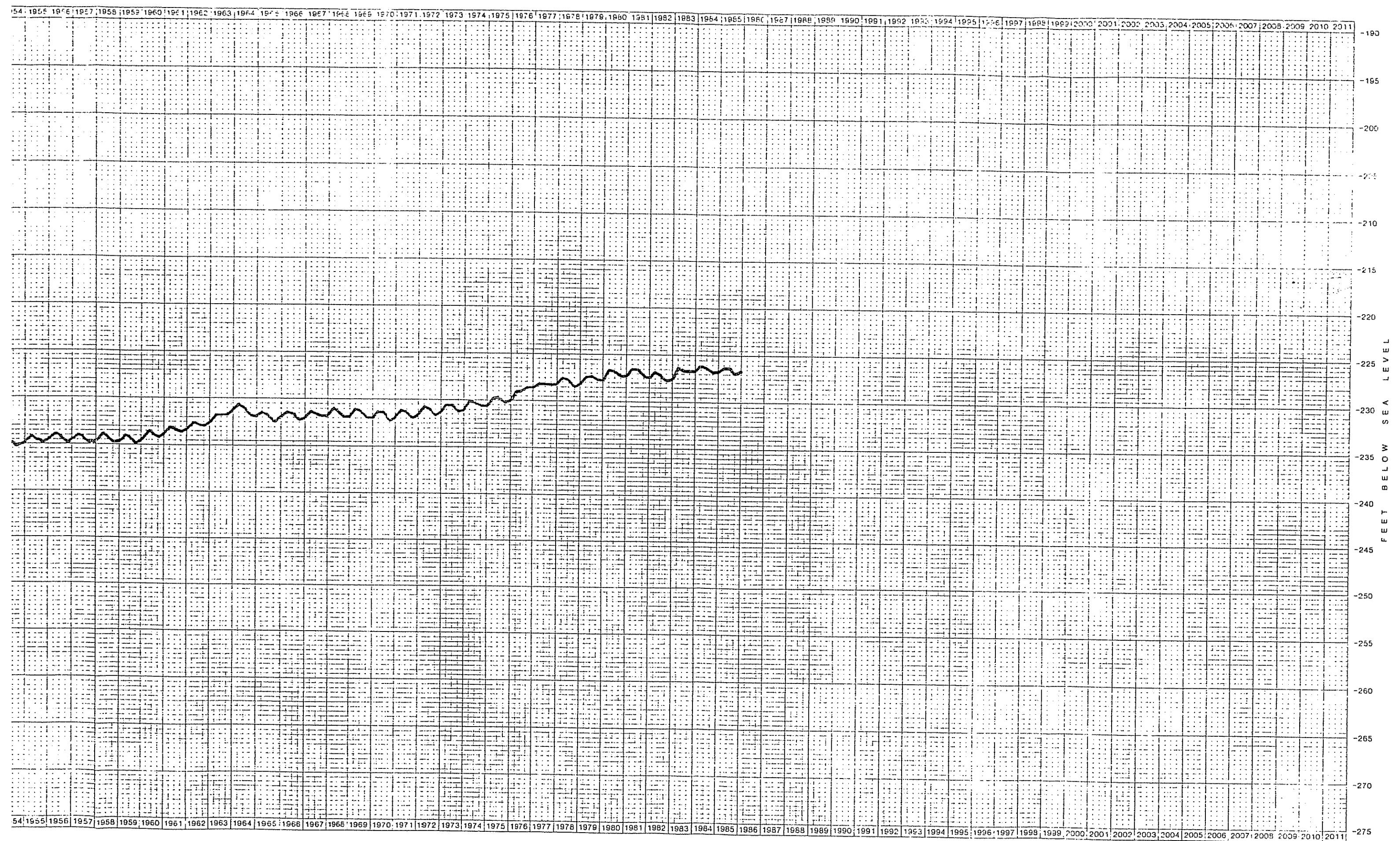
(Near Fig Tree John Spring, Section 23, T. 8 S., R. 9 E.)

<u>Year</u>	<u>Elevation End of Year</u>	<u>Year</u>	<u>Elevation End of Year</u>
1934	247.80	1960	233.75
1935	248.30	1961	233.35
1936	247.70	1962	232.65
1937	246.40	1963	231.20
1938	244.70	1964	231.85
1939	242.20	1965	232.00
1940	242.50	1966	231.95
1941	241.00	1967	231.75
1942	241.30	1968	231.80
1943	241.05	1969	231.95
1944	240.80	1970	231.90
1945	240.35	1971	231.65
1946	240.45	1972	231.30
1947	240.45	1973	231.15
1948	240.75	1974	230.65
1949	240.20	1975	230.05
1950	239.60	1976	228.60
1951	238.30	1977	228.25
1952	236.60	1978	228.20
1953	235.75	1979	227.75
1954	234.75	1980	227.25
1955	234.35	1981	227.40
1956	234.50	1982	227.85
1957	234.45	1983	226.65
1958	234.60	1984	227.00
1958	234.30	1985	226.90

1 YEAR BY DAYS x 250 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.







ELEVATION — SALTON SEA

**1985 SUMMARY OF STRUCTURES INSTALLED, REPLACED,
NEW CONSTRUCTION AND ITEMS OF INTEREST CONCERNING
OPERATION AND MAINTENANCE**

SUMMARY OF STRUCTURES INSTALLED OR REPLACED

	<u>1985</u>	<u>1984</u>
Tile Sumps Installed (Total in system - 513)	7	2
Surface Drain Sumps Installed (Total in system - 25)	2	1
*County Road crossings installed	31	42
Railroad crossings installed	1	-
State Highway crossings installed	9	-
New deliveries installed	6	12
New checks installed	1	4
New siphons installed	1	1
New control structures installed	5	14
New storm spillways installed	-	-
New maintenance crossings installed	-	1
New headings installed	-	-
New bridges installed	-	-
New moss pipes installed	-	-
New outlets installed	-	-
New headwalls installed	-	-
New tailwater structures installed	3	3
Deliveries replaced	16	23
Checks replaced	8	13
Bridges replaced	-	-
Siphons replaced	2	4
Control structures replaced	8	5
Moss pipes replaced	-	-
Spillways replaced	-	-
Outlets replaced	2	-
Tailwater structures replaced	8	6
 Miles of open drains replaced with pipeline and pipeline drains installed	 .10	 .79
 Miles of canals concrete lined	 30.52	 43.49

*The County Board of Supervisors and the District Board of Directors entered into a cooperative agreement in 1947, for replacement of canal or drain crossings under County roads with concrete siphons. Under the terms of this agreement the District pays installation costs and the County of Imperial pays material costs.

ALL-AMERICAN CANAL

Above average upstream releases from extreme runoff caused heavy flows of the Colorado River creating heavy trash and silt loads at the All-American Canal Headworks. Subsequent to March the flows decreased, allowing silt samples to be taken.

WATER CONSERVATION

The J.M. Sheldon Water Conservation Reservoir is a 476-acre-foot regulating reservoir, constructed on a 50-acre site in portion of Tracts 214 and 308, 14-13, on the Westside Main Canal. This reservoir receives water from the Westside Main Canal that would normally be surplus and stores it for beneficial use below No. 8 Heading when required. This reservoir was constructed and put into operation in 1977. A total of 27,484 acre-feet was diverted to the reservoir and 27,185 acre-feet was released in 1985.

The Kakoo Singh Reservoir, a 323-acre-foot regulating reservoir, constructed on a 32-acre site adjacent to the East Highline Canal, near the Vail Supply Heading, and above the Nectarine Check to store water from the East Highline Canal and release to the Vail Supply Canal as needed, was constructed and put into operation in 1976. A total of 30,277 acre-feet was diverted to this reservoir and 30,187 acre-feet was released in 1985.

The O.L. "Oscar" Fudge Reservoir was approved for construction on Major Work Authorization No. 79-2. It is a 300-acre-foot regulating reservoir constructed on a 37.5-acre site in portion Tracts 104 and 105, Sections 12 and 13, 14-13, for the storage of water from Central Main Canal above No. 4 Check and released when needed into Central Main Canal below No. 4 Check. Preliminary work was started in 1980 and the reservoir was completed in 1982. A total of 23,961 acre-feet was diverted to this reservoir and 23,823 acre-feet was released in 1985.

The Herman "Red" Sperber Reservoir was approved for construction on Major Work Authorization No. 81-W-1. It is a 470-acre-foot regulating reservoir constructed on a 64.6-acre site in portions Tract 49 and Section 20, 15-15, for the storage of water from the Rositas Canal above the Redwood Heading and released when needed into the Rose and Rubber Canals downstream of Meloland Road. Preliminary work was started in 1981 and was completed in 1983. A total of 28,579 acre-feet was diverted to this reservoir and 28,262 acre-feet was released in 1985.

The 21-point water conservation program which became the official water conservation program for the Imperial Irrigation District effective July 1, 1980, continued in 1985. The two most effective items being the water conservation reservoirs and personnel checking surface field discharge.

The State Water Resources Control Board, in Decision 1600, determined that there were water conservation opportunities in the IID. The IID developed an extensive Water Conservation Plan. The Draft Water Conservation Plan was distributed January 31, 1985 with the Final Plan and Supplement distributed by the Public Information and Community Services Section in October, 1985.

To facilitate outflow measurements for the USBR East Highline Canal Seepage Study, in accordance with agreement between USBR and IID, broad crested weirs were installed in the following locations:

1. Magnolia Canal, near center north line N.E. 1/4, Section 28, 13-16
2. EHL Lateral 13 Canal, near center north line N.E. 1/4, Section 35, 15-16
3. EHL Lateral 14 Canal, near center north line S.E. 1/4, Section 26, 15-16
4. Mulberry Canal, S.E. 1/4, Section 5, 13-16
5. Nectarine Canal, near center north line N.E. 1/4, Section 25, 12-15
6. Munyon Canal, near center west line Section 9, 13-16

To facilitate flow measurements for a tailwater pumpback study, a broad crested weir was installed in Newside Lateral 3-A Canal, delivery 31, near southwest corner Tract 59, Section 25, 14-13.

As part of the 1985 Water Conservation Plan for Tailwater Pumpback Demonstration Project there were three tailwater pumpback installations made during December:

1. Central Main Canal, deliveries 15 & 16, near center south line E. 1/2 Tract 117, 14-14
2. "Q" Canal, deliveries 13 & 15, near southwest corner, N.E. 1/4, Section 16, 11-14
3. Trifolium Lateral 8 Canal, delivery 153, near northwest corner Tract 128, 13-13

These tailwater pumpback systems were installed in accordance with agreements between the IID and landowner.

Hydrilla

April 3 - Fudge Reservoir emptied for hydrilla control.

May 17 - State Fish & Game unanimously approved operational use of triploid grass carp for hydrilla eradication & general aquatic plant management in the Imperial and Coachella Valleys.

June - Approximately 7,700 triploid grass carp were put into the All-American Canal above Meadows Road bridge

A drainage outlet was installed from Wiest Lake to discharge into Alamo River to help control hydrilla in Wiest Lake.

Our hydrilla team flew in approximately 17,300 triploid grass carp from Ft. Meyers, FL. They are being kept in approximately 12 acres of "grow out" ponds at Rancho Dos Palmas at North Shore where they will be kept until they are large enough to put into the canals - probably sometime in March 1986.

Oct. & Nov.- There were approximately 50,000 triploid grass carp, 8-11 inches

long, stocked in various sections of the All-American, Central Main and Westside Main Canals.

December - Interviews were begun with fishermen to document any impact from triploid grass carp being introduced into the system.

FARM TILE

The landowners installed a total of 654.11 miles of drain tile in 1985, for a total of 30,191.63 miles installed since 1929.

CONCRETE LINING PROGRAM

There were 30.52 miles of canals concrete lined under the Concrete Lining Program in 1985.

WEED CONTROL - MATERIAL

1985

Divisions	Pounds of Chemical			Gallons of Chemical		
	Main Canals	Lateral Canals	Drains	Main Canals	Lateral Canals	Drains
Holtville	-	1,820	12,770	5,932	20,522	-
El Centro-Calexico	-	3,810	6,576	1,190	11,592	-
Imperial	-	4,393	3,786	1,606	9,785	-
Brawley	-	2,408	15,934	8,869	27,211	-
Westmorland	-	5,765	13,501	11,712	30,978	-
Calipatria	-	2,219	15,801	6,756	24,776	-
Total Divisions	16	20,415	68,368	36,065	124,864	-
All-American	-	-	13,813	2,858	16,671	-
Drainage	-	-	-	23,055	23,055	-
Grand Total	16	20,415	82,181	61,978	164,590	-

SUMMARY OF ENGINEERING WORK

		<u>1985</u> <u>Hours</u>	<u>1984</u> <u>Jobs</u>
Office			
1.	No. Special Jobs	2,596	160
2.	Delivery Investigations	47	52
3.	No. Tile Drain Construction Investigations	609	84
4.	No. Drain & Irrigation Investigations	2,531	64
5.	No. Engineering Data Reports	718.5	213
6.	No. of Power Jobs	243	2
7.	No. Miscellaneous Jobs	463	258
	Total	<u>7,207.5</u>	<u>833</u>
8.	<u>Laboratory</u>		
(a)	No. Silt Analyses	47	129
(b)	Miscellaneous	6	17
(c)	No. Salinity Analyses	26	-
(d)	No. Complete Analyses	79	129
	Total Item No. 8	<u>158</u>	<u>275</u>
9.	<u>Reproduction</u>		
(a)	Blueprints - sq. ft.	173,532	141,537
(b)	Photostats - sq. ft.	991	851
10.	<u>Microfilm</u>		
(a)	No. Drawings Microfilmed	9,576	3,627
	Total No. Drawings Microfilmed May 1, 1975, to December 31, 1985	<u>60,981</u>	<u>50,323</u>

Field

	<u>Miles Staked or Surveyed</u>		
1.	Delivery Investigations	9.50	7.99
2.	Tile Drain Construction	0.44	0.63
3.	Tile Drain Investigations	25.36	46.06
4.	Drain and Irrig. Investigations	346.74	356.75
5.	Power Surveys	-	20.74
	Total	<u>382.04</u>	<u>432.17</u>
6.	Test Well Readings - Man-days	12.00	13.00
7.	Miscellaneous - Party hours	982.00	683.50
8.	Inspection - Manhours	821.00	4,658.50
9.	Power Surveys - Party hours	89.00	567.50

SUMMARY OF DRAINAGE ENGINEERING WORK

	<u>1985</u>	<u>1984</u>
1. Number Requests for Tile Drainage Investigations or Outlets	37	174
Total Acreage for Tile Drainage Investigations, Outlets or Designs	2,622	12,820
2. Number Field Checks for Tile Investigations, Outlets or Designs	40	236
Acreage of Field Checks for Tile Investigations, Outlets or Designs	3,202	6,660
3. Soil and Water Table Investigations	8	9
Acreage of Soil and Water Table Investigations	450	416
4. Number Profiles of Drainage Investigations	46	73
Acreage of Profiles of Drainage Investigations	1,517	5,680
5. Number Tile Drainage Designs Completed	3	66
Acreage in Tile Drainage Designs Completed	400	4,210
6. Number Metered Tile Effluents	673	155
7. Number Field Checks of Tile Machines	59	156
8. Number Test Wells for Proposed Sumps	10	1
9. Number Soil & Water Table Investigations of District Projects	6	2
10. Number of Contacts with Landowners or Others	3,857	5,040

**CONCRETE LINED CANALS, PIPELINE DRAINS,
TILE DRAINS AND DRAINAGE PUMPS**

SUMMARY OF CONCRETE LINED CANALS

Year	Concrete Lined Farm Ditches		Concrete Lining of District Canals				Annual Cumulative	
	Cumulative		For Private Maintenance		For District Maintenance			
	Length (Miles)	Length (Miles)	Length (Miles)	Length (Miles)	Cumulative Length (Miles)			
1955	103.00	298.90	1.15	.50	1.30	104.65	301.35	
1956	125.60	424.50	4.05	5.20	1.66	2.96	432.66	
1957	128.90	553.40	4.53	9.73	3.15	6.11	569.24	
1958	98.40	651.80	4.97	14.70	3.11	9.22	675.72	
1959	115.70	767.50	7.56	22.26	4.07	13.29	803.05	
1960	122.10	889.60	4.60	26.86	3.62	16.91	933.37	
1961	89.50	979.10	4.41	31.27	10.10	27.01	1,037.38	
1962	93.30	1,072.40	1.60	32.87	17.67	44.68	1,149.95	
1963	118.30	1,190.70	5.74	18.61	27.54	72.22	1,301.53	
1964	110.80	1,301.50	3.53	42.14	50.52	122.74	164.85	
1965	80.70	1,382.20	.76	42.90	54.35	177.09	135.81	
1966	72.30	1,454.50	.75	43.65	68.24	245.33	141.29	
1967	62.90	1,517.40	.40	44.05	60.24	305.57	123.54	
1968	67.50	1,584.90	1.02	45.07	51.68	357.25	120.20	
1969	73.00	1,657.90	.27	45.34	56.11	413.36	129.38	
1970	66.10	1,724.00	.61*	45.95*	38.74*	452.10*	105.45*	
1971	63.10**	1,787.10**	.93	46.88	35.85	487.95	99.88**	
1972	61.20	1,848.30	1.21	48.09	36.20	524.15	98.61	
1973	71.50	1,919.80	1.11	49.20	29.94	554.09	102.55	
1974	94.50	2,014.39	1.00	50.20	31.17	585.26	126.67	
1975	56.80	2,071.10	2.44	52.64	38.39	623.65	97.63	
1976	68.00	2,139.10	.77	53.41	38.25	661.90	107.02	
1977	60.30	2,199.40	.30	53.71	34.63	696.53	95.23	
1978	33.40	2,232.80	-	53.71	19.20	715.73	52.60	
1979	25.50***	2,258.30***	-	53.71	21.79	737.52	47.29***	
1980	37.40***	2,295.70***	-	53.71	21.36	758.88	58.76***	
1981	43.60***	2,339.30***	-	53.71	27.30	786.18	70.90***	
1982	36.20	2,375.50	-	53.71	18.52	804.70	54.72	
1983	24.10	2,399.60	-	53.71	23.08	827.78	47.18	
1984	21.40	2,421.00	-	53.71	43.49	870.27	43.48	
1985	24.80	2,445.80	-	53.71	30.52	900.79	55.32	

* Correction 3/22/72

** Correction 1/73

*** Correction 2/17/83

Mileage on District canals shown includes structures

SUMMARY OF CONCRETE LINED CANALS AND FARM DITCHES

Year	Concrete Lined Farm Ditches		Private Maintenance		L.O. & IID Participation		Concrete Lining of District Canals		District Maintenance	
	Miles	To Date	Miles	To Date	Miles	To Date	Miles	To Date	Miles	To Date
1955	103.00	298.90	1.15	.50	5.20	1.66	2.96	-	.50	1.30
1956	125.60	424.50	4.05	5.20	9.73	3.15	6.11	-	1.66	2.96
1957	128.90	553.40	4.53	4.97	14.70	3.11	9.22	-	3.15	6.11
1958	98.40	651.80	4.97	7.56	22.26	4.07	13.29	-	3.11	9.22
1959	115.70	767.50	4.60	26.86	3.62	16.91	-	4.07	13.29	
1960	122.10	889.60	4.60	31.27	10.10	27.01	-	3.62	16.91	
1961	89.50	979.10	4.41	32.87	17.67	44.68	-	10.10	27.01	
1962	93.30	1,072.40	1.60	38.61	27.54	72.22	-	17.67	44.68	
1963	118.30	1,190.70	5.74	42.14	50.52	122.74	-	27.54	72.22	
1964	110.80	1,301.50	3.53	42.90	52.83	175.57	-	50.52	122.74	
1965	80.70	1,382.20	.76	43.65	67.24	242.81	1.00	1.52	54.35	
1966	72.30	1,454.50	.75	44.05	60.24	303.05	-	2.52	68.24	
1967	62.90	1,517.40	.40	45.07	47.17	350.22	4.51	7.03	357.25	
1968	67.50	1,584.90	1.02	45.34	55.10	405.32	1.01	8.04	56.11	
1969	73.00	1,657.90	.27	45.95*	38.74*	444.06*	-	8.04	38.74*	
1970	66.10	1,724.00	.61*	46.88	35.01	479.07	.84	8.88	35.85	
1971	63.10**	1,787.10	.93	48.09	36.20	515.27	-	8.88	36.20	
1972	61.20	1,848.30	1.21	49.20	29.94	545.21	-	8.88	524.15	
1973	71.50	1,919.80	1.11	50.20	31.17	576.38	-	8.88	554.09	
1974	94.50	2,014.30	1.00	52.64	38.39	614.77	-	8.88	31.17	
1975	56.80	2,071.10	2.44	53.41	38.25	653.02	-	8.88	623.65	
1976	68.00	2,139.10	.77	53.71	34.63	687.65	-	8.88	38.25	
1977	60.30	2,199.40	.30	53.71	21.36	750.00	-	8.88	661.90	
1978	33.40	2,232.80	-	53.71	19.20	777.30	-	8.88	34.63	
1979	25.50***	2,258.30***	-	53.71	21.79	728.64	-	8.88	21.79	
1980	37.40***	2,295.70***	-	53.71	21.36	750.00	-	8.88	737.52	
1981	43.60***	2,339.30***	-	53.71	27.30	777.30	-	8.88	758.88	
1982	36.20	2,375.50	-	53.71	18.52	795.82	-	8.88	18.52	
1983	24.10	2,399.60	-	53.71	23.08	818.90	-	8.88	23.08	
1984*	21.40	2,421.00	-	53.71	43.49	863.39	-	8.88	827.78	
1985	24.80	2,445.80	-	53.71	30.52	893.91	-	8.88	43.49	
									30.52	900.79

* Correction 3/22/72

** Correction 1/73

*** Correction 2/17/83

Beginning 1-1-84 - Concrete lining of District canals - total IID cost

Mileage on District canals shown includes structures

PIPELINE DRAIN INSTALLATIONS

(District O & M)

<u>Year</u>	<u>Miles</u>	<u>Cumulative Length a/</u>
1962	1.38	22.51
1963	9.74	32.25
1964	5.38	37.63
1965	4.92	42.55
1966	13.64	56.19
1967	7.11	63.30
1968	6.24	69.54
1969	7.37	76.91
1970	3.69	80.06*
1971	2.16	82.22
1972	5.54**	87.76**
1973	1.83	89.59
1974	5.31	94.90
1975	6.47***	101.37***
1976	1.11	102.48
1977	1.36	103.84
1978	.90	104.74
1979	1.12	105.86
1980	2.13	107.99
1981	1.96	109.95
1982	.49	110.44
1983	.79	111.23
1984	.79	112.02
1985	.10	112.12

*0.54 of a mile abandoned

**0.48 of a mile is in the total miles, but no additional miles in records as parallel drain

***0.27 of a mile is in the total miles, but no additional miles in records as parallel drain

a/Not actual current pipeline total due to corrections and abandonments - shows actual installation per year

TILE INSTALLED IN IMPERIAL IRRIGATION DISTRICT

<u>Year</u>	<u>Miles of Tile Installed</u>	<u>Cumulative Total Miles Tile Installed</u>	<u>No. Acres Tiled</u>	<u>Cumulative Total No. Acres Tiled</u>
1929 to 1939, Inclusive				
Cumulative Total Miles Installed - 332.77				
Total Acres Prior to 1940 --- 12,200				
1940	66.84	399.61	4 040	16 240
1941	46.08	445.69	2 880	19 120
1942	37.15	482.84	2 040	21 160
1943	53.24	536.08	3 960	25 120
1944	60.00	596.08	1 880	27 000
1945	55.00	651.08	3 240	30 240
1946	133.25	784.33	5 480	35 720
1947	325.00	1 109.33	17 920	53 640
1948	393.80	1 503.13	17 220	70 860
1949	455.62	1 958.75	21 670	92 530
1950	458.00	2 416.75	22 610	115 140
1951	603.10	3 019.85	22 665	137 805
1952	709.54	3 729.39	23 345	161 150
1953	512.19	4 241.58	16 000	177 150
1954	491.12	4 732.70	14 960	192 110
1955	526.92	5 259.62	15 160	207 270
1956	519.36	5 778.98	13 290	220 560
1957	560.97	6 339.95	12 200	232 760
1958	490.88	6 830.83	10 690	243 450
1959	546.54	7 377.37	9 550	253 000
1960	794.05	8 171.42	15 713	268 713
1961	857.51	9 028.93	17 921	286 634
1962	611.01	9 639.94	11 485	298 119
1963	766.02	10 405.96	10 129	308 248
1964	993.97	11 399.93	12 707	320 955
1965	734.52	12 134.45	7 958	328 913
1966	527.38	12 661.83	6 634	335 547
1967	634.00	13 295.83	6 419	341 966
1968	754.33	14 050.16	6 046	348 012
1969	808.64	14 858.80	6 010	354 022
1970	1 036.61	15 895.41	8 230	362 252
1971	919.34	16 814.75	7 552	369 804
1972	1 019.40	17 834.15	7 311	377 115
1973	1 154.35	18 988.50	8 031	385 146
1974	1 191.96*	20 180.46*	3 734	388 880
1975	1 223.22	21 403.68	6 258	395 138
1976	1 530.67	22 934.35	7 941	403 079
1977	822.31	23 756.66	3 441	406 520
1978	958.32	24 714.98	5 719	412 239
1979	1 234.11	25 949.09	6 636	418 875
1980	1 061.32	27 010.41	3 873	422 748
1981	865.80	27 876.21	4 839	427 587
1982	631.54	28 507.76	1 950	429 537
1983	463.88	28 971.64	1 687	431 224
1984	565.88	29 537.52	1 633	432 857
1985	654.11	30,191.63	1 035	433 892

*Correction 6/1/75

TILE DRAINAGE SUMPS
Breakdown of Cost of O&M
(Dollars)

Standard Sumps

No. of Sumps	Annual Cost for All Sumps						Average Annual Cost Per Sump					
	Total No.	Weighted Average	Labor	Material	Equip.	Total Maint.	Total Cost	Labor	Material	Equipd.	Total Maint.	Total Cost Per Sump
1957	85	82	\$ 3,805	\$ 1,286	\$ 1,499	\$ 6,890	\$ 6,448	\$ 13,338	\$ 47	\$ 19	\$ 18	\$ 79
1958	96	90	5,210	2,408	1,991	9,609	6,846	16,455	58	27	22	107
1959	100	98	4,973	2,242	2,489	9,704	8,691	18,395	51	23	25	99
1960	126	112	4,909	1,187	1,476	7,572	9,188	16,760	44	11	13	68
1961	148	138	6,095	1,812	2,346	10,253	12,854	23,107	44	13	17	74
1962	170	156	6,728	3,243	1,623	11,594	15,971	27,565	43	21	10	74
1963	191	179	8,102	6,184	2,131	16,417	21,272	37,689	45	35	12	92
1964	221	205	9,451	6,728	2,320	18,499	17,720	36,219	46	33	11	90
1965	241	231	13,223	11,290	2,958	27,471	16,349	43,820	57	49	13	119
1966	263	249	14,852	13,449	3,153	31,454	15,569	47,023	59	54	13	126
1967	275	267	16,708	12,588	4,279	33,575	15,391	48,966	63	47	16	126
1968	306	287	15,222	10,531	3,554	29,307	18,188	47,495	53	37	12	102
1969	328	316	22,051	12,893	4,976	39,920	19,178	59,098	70	41	15	126
1970	356	342	25,868	17,147	6,323	49,338	20,976	70,314	76	50	18	144
1971	369	360	24,462	30,767	5,667	60,896	22,123	83,019	68	85	16	169
1972	390	378	29,958	28,352	7,072	65,382	23,485	88,867	79	75	19	173
1973	405	394	25,016	6,374	5,477	36,867	25,820	62,687	63	16	14	93
1974	419	412	32,387	15,457	6,273	54,117	34,692	88,809	79	37	15	131
1975	432	424	36,129	15,895	7,173	59,197	43,936	103,133	85	37	17	139
1976	435	433	39,895	18,890	8,187	66,972	48,485	115,457	92	44	19	155
1977	439	437	47,634	30,443	8,694	86,771	43,741	130,512	109	70	20	199
1978	442	439	55,963	24,382	8,720	89,065	55,304	144,369	127	56	20	203
1979	452	447	74,408	27,249	9,786	111,443	73,905	185,348	166	61	22	249
1980	464	457	78,078	43,794	10,413	132,285	88,721	221,006	170	96	23	289
1981	473	467	105,054	56,371	13,887	175,312	89,202	264,514	225	121	30	375
1982	473	473	127,865	41,154	15,499	184,518	115,789	300,307	270	87	33	390
1983	475	474	119,562	25,824	15,872	161,258	130,748	292,006	252	54	34	340
1984	477	475	110,630	25,605	15,100	151,335	120,528	271,863	233	54	32	319
1985	482	477	82,253	38,051	7,240	128,544	113,266	241,810	175	80	15	270

TILE DRAINAGE SUMPS
Breakdown of Cost of O&M
(Dollars)

Salton Sea Sumps

No. of Sumps	Annual Cost for All Sumps					Average Annual Cost Per Sump					Total Cost Per Sump	
	Total No.	Weighted Average	Labor	Material	Equip.	Total Maint.	Power	Total Cost	Labor	Material	Equip.	
1957	15	14	\$ 201	\$ 119	\$ 25	\$ 343	\$ 1,796	\$ 2,139	\$ 14	\$ 9	\$ 2	\$ 25
1958	19	18	514	162	71	747	2,232	2,979	29	9	4	42
1959	22	20	897	211	518	1,626	2,629	4,255	45	10	26	81
1960	22	22	706	220	429	1,355	2,332	3,687	32	10	20	62
1961	25	24	829	327	598	1,754	3,049	4,803	34	14	25	73
1962	25	25	752	3,063	530	4,345	3,386	7,731	30	123	21	174
1963	27	26	1,381	3,509	917	5,807	4,487	10,294	53	135	35	223
1964	29	29	1,026	1,101	941	3,068	3,908	6,976	35	38	33	106
1965	29	29	1,102	951	887	2,940	3,179	6,119	38	33	30	101
1966	30	30	1,361	2,880	995	5,236	2,883	8,119	45	96	33	174
1967	30	30	991	3,034	823	4,848	2,644	7,492	33	102	27	162
1968	30	30	1,407	5,740	1,079	8,226	2,958	11,184	47	191	36	274
1969	30	30	1,815	4,759	1,529	8,103	3,325	11,428	60	159	51	270
1970	30	30	2,008	2,030	873	4,911	3,243	8,154	67	68	29	164
1971	30	30	3,488	10,660	1,529	15,677	3,551	19,228	116	356	51	523
1972	30	30	2,787	7,611	1,209	11,607	3,702	15,309	93	254	40	387
1973	30	30	1,945	739	943	3,627	3,941	7,568	65	25	31	121
1974	30	30	1,822	195	1,541	3,558	5,087	8,645	61	6	51	118
1975	30	30	2,264	576	2,069	4,909	6,462	11,371	76	19	69	164
1976	30	30	2,728	860	2,664	6,252	6,829	13,081	91	28	89	208
1977	30	30	2,556	1,141	2,944	6,641	8,476	15,117	85	38	98	221
1978	30	30	3,298	3,341	2,748	9,387	10,542	19,929	110	111	92	51
1979	30	30	3,409	3,141	1,026	7,576	13,008	20,584	114	105	34	313
1980	30	30	7,863	7,797	2,444	18,104	21,267	39,371	262	260	81	603
1981	30	30	8,180	6,122	1,524	15,826	15,063	30,889	273	204	51	528
1982	30	30	9,978	8,879	2,076	20,933	19,315	40,248	333	296	69	698
1983	30	30	21,319	9,186	3,699	34,204	27,034	61,238	711	306	123	1,140
1984	30	30	20,685	7,420	1,939	30,044	20,722	50,766	690	247	65	1,002
1985	30	30	20,583	8,360	1,437	30,380	18,099	48,479	686	279	48	603

DRAIN SUMP PUMPS
JANUARY 1, 1986

<u>Name</u>	<u>Location</u>	<u>Discharge Into</u>	<u>Date Installed</u>	<u>Type & Depth of Sump</u>	<u>No. and HP Pumps</u>	<u>Power Account No.</u>	<u>Center L. of Discharge to Top of Sump</u>
<u>Pumps Installed, Operated and Maintained by IID. (In Connection with IID Facilities)</u>							
DP 1	Evergreen Canal Sump	(Removed 1980)					
DP 2	Evergreen Canal Sump	(Removed 1967)					
DP 3	A-A Drain No. 2 Sump (E.H.L. Pump A)	NW Cor. Lot 2, Sec. 1, 17-16	East Highline Canal	11-1951	1 @ 40***	15-10-0546-02	
DP 4	A-A Dr. 1A & 1B, No. Side	N½ NW½ Sec. 1, 17-17	All-American Canal	8-1951	1 @ 60***		
DP 5	A-A Dr. No. 1C, So. Side	S½ NW½ Sec. 1, 17-17	All-American Canal	10-1955	1 @ 5**	15-10-1274-08	
DP 6	A-A Dr. No. 4A, So. Side	Lot 3 Sec. 16, 17-16	All-American Canal	7-27-60	Conc. 16'	1 @ 10**	15-10-1272-00
DP 7	(Removed 1975)				1 @ 3*	15-10-0427-06	
DP 8	Rose Drain Outlet	Ctr. N Line Tr. 49, 14-14	Rose Outlet Drain	1925	2 @ 40***	01-40-2502-00	
DP 9!	Mesa Drain No. 8	NW Cor. N½ of SE¼, Sec. 25, 16-16	Mesa Dr. 8 (Pipeline)	9-7-54	Conc. 12'	1 @ 3*	06-10-0536-05
DP 10	IID Headquarters Yard	NE Cor. Lot 4, Townsite of Imperial, 15-14	Dolson Drain No. 2	12-11-61	Conc. 14'	1 @ 1½*	09-30-0212-09
DP 11	A-A Canal Northside	SW Cor. Tr. 47, 17-16	All-American Canal	4-18-63	Conc. 20'	1 @ 3*	12"
DP 12	A-A Canal Northside	NW Cor. Lot 5, Sec. 16, 17-16	All-American Canal	2-3-65	Conc. 16'	1 @ 3*	15-10-0428-05
DP 13	R. S. Dhillon - Pumps Owned, Operated, and Power Bills Paid by Landowners - Mechanical Maintenance by IID					15-10-0429-04	12"
DP 14	Marth Ranch	(Removed 1970)					05-20-1175-08
DP 15	Removed December, 1977						
DP 16	Bridenbaugh - S-415	(1974)					
DP 17!!	DP 17 Pipeline Drain	Ctr. N Line SW¼, Sec. 11, East Highline Canal 15-16		5-15-67	Conc. 22'	1 @ 10**	11-11-1442-08
DP 18!!	DP 18 Pipeline Drain	Ctr. Tr. 99, 16-16		9-16-68	Conc. 20'	1 @ 10**	11-11-1811-01
DP 19!!	DP 19 Pipeline Drain	NW Cor. Tr. 99, 16-16		9-9-68	Conc. 20"	1 @ 10**	11-11-1808-06
							Over Top
!! In Connection with Providing Outlet for Waste Water							
!! In Connection with Water Recovery Study							
*220 - Single-Phase							
**220 - 3 Phase							
***440 - 3 Phase							

<u>Name</u>	<u>Location</u>	<u>Discharge Into</u>	<u>Date Installed</u>	<u>Type & Depth of Sump</u>	<u>No. and HP Pumps</u>	<u>Power Account No.</u>	<u>Center L. of Discharge to Top of Sump</u>
<u>Pumps Installed, Operated and Maintained by IID (In Connection with IID Facilities)</u>							
DP 20!! DP 20 Pipeline Drain	Ctr. NW $\frac{1}{2}$ Sec. 26, 14-16	East Highline Canal	9-26-68	Conc. 20'	1 @ 5**	11-11-1025-03	Over Top
DP 21!! DP 21 Pipeline Drain	NE Cor. Lot 7, Sec. 12, 16-16	East Highline Canal	11-12-68	Conc. 20'	1 @ 10**	06-10-0760-02	Over Top
DP 22!! DP 22 Pipeline Drain	NE Cor. Lot 2, Sec. 12, 16-16	East Highline Canal	11-4-68	Conc. 20'	1 @ 10**	06-10-0763-09	Over Top
DP 23!! DP 23 Pipeline Drain	NW $\frac{1}{2}$ Sec. 28, 13-16	East Highline Canal	3-30-70	Conc. 20'	1 @ 10**	06-40-0209-01	Over Top
DP 24!! DP 24 Pipeline Drain	NW $\frac{1}{2}$ Sec. 2, 14-16	East Highline Canal	10-6-71	Conc. 20'	1 @ 10**	11-11-0788-02	Over Top
DP 25!! DP 25 Pipeline Drain	SW $\frac{1}{2}$ Sec. 2, 14-16	East Highline Canal	1-11-72	Conc. 20'	1 @ 10**	11-11-0786-04	Over Top
DP 26!! DP 26 Pipeline Drain	N $\frac{1}{2}$ Tr. 59, 14-16	East Highline Canal	11-24-72	Conc. 20'	2 @ 10**	11-11-0798-00	Over Top
DP 27!! DP 27 Pipeline Drain	SW $\frac{1}{2}$ Sec. 36, 15-16	East Highline Canal	12-13-72	Conc. 20'	2 @ 10**	11-11-1807-07	Over Top
DP 28!! DP 28 Pipeline Drain	Near Ctr. S Line, SW $\frac{1}{2}$ Sec. 23, 14-16	East Highline Canal	1-28-74	Conc. 20'	1 @ 15**	11-11-0855-00	Over Top
					1 @ 10**		

!In Connection with Providing Outlet for Waste Water
!!In Connection with Water Recovery Study

*220 - Single-Phase
**220 - 3 Phase
***440 - 3 Phase

DRAIN SUMP PUMPS • January 1, 1986 (Continued)

<u>Name</u>	<u>Location</u>	<u>Discharge Into</u>	<u>Date Installed</u>	Type & Depth <u>of Sump</u>	No. and HP <u>Pumps</u>	Power <u>Account No.</u>	Center L. of Discharge to <u>Top of Sump</u>
<u>Pumps Owned, Operated, and Power Bills Paid by Landowners - Mechanical Maintenance by IID</u>							
R. S. Dhillon (DP No. 13)	NE Cor. Tr. 56, 16-13	Dahlia Canal, Gate 12	1941	Tim. 14'	1 Q 1½	05-20-1175-08	

DRAIN SUMP PUMPS - January 1, 1986 (Continued)

<u>S.</u>	<u>No.</u>	<u>Name</u>	<u>Location</u>	<u>Discharge Into</u>	<u>Date Installed</u>	<u>Type & Depth of Sump</u>	<u>No. and HP Pumps</u>	<u>Power Account No.</u>	<u>Center L. of Discharge to Top of Sump</u>
<u>Pumps Installed, Operated, and Maintained by IID (In Connection with Providing Outlet for Waste Water)</u>									
Mesa Drain No. 8 - (DP No. 9)	NW Cor. N½ of SE½ Sec. 25, 16-16	Mesa Drain No. 8 Pipeline	9-7-54	Conc. 12'	1 @ 3*	06-10-0536-05	36"		

DRAIN SUMP PUMPS
JANUARY 1, 1986

<u>Name</u>	<u>Location</u>	<u>Discharge Into</u>	<u>Date Installed</u>	<u>Type & Depth of Sump</u>	<u>No. and HP Pumps</u>	<u>Power Account No.</u>
<u>Surface Drainage Sump Pumps Installed, Operated and Maintained by IID, Major Work Authorization 78-1 (Board Action 6-13-78)</u>						
WP-1	Elmore	Approx. N. Line NE 1/4 Sec. 11, 12-11	Salton Sea	3-25-80 10'	1 @ 5 HP	20-50-0446-07
WP-2	Elmore	NW Cor. SE 1/4 Sec. 11, 12-11	Salton Sea	3-25-80 10'	1 @ 5 HP	20-50-0431-04
WP-3	Elmore	NW Cor. SE 1/4 Sec. 13, 12-11	Salton Sea	4-1-80 10'	1 @ 5 HP	20-50-0412-07
WP-4	Elmore	NE Cor. NE 1/4 Sec. 24, 12-11	Trifolium 20	4-1-80 10'	1 @ 5 HP	20-50-0403-08
WP-5	Reese	NE Cor. S 1/2 SW 1/4 Sec. 19, 12-12	Trifolium 19	3-14-80 10'	1 @ 5 HP	20-50-0214-07
WP-6	I.I.D.	Ctr. W line SW 1/4 Sec. 24, 12-12	Trifolium 12	8-1-80 10'	1 @ 5 HP	07-50-2065-00
WP-7	Griset	NW Cor. E. 1/2 NW 1/4 Sec. 24, 12-12	Salton Sea	5-7-80 10'	1 @ 5 HP	17-60-0677-00
WP-8	Elmore	NW Cor. Lot 3 Sec. 18, 12-13	Vail Cut-Off	5-7-80 10'	1 @ 5 HP	17-60-0702-09
WP-9	I.I.D.	NW Cor. SW 1/4 Sec. 7, 12-13	Salton Sea	5-8-80 10'	1 @ 5 HP	17-60-0707-04
WP-10	Elmore	Approx. Ctr. Sec. 7, 12-13	Salton Sea	8-1-80 10'	1 @ 5 HP	17-60-0733-02
WP-11	Elmore	NW Cor. SW 1/4 Sec. 5, 12-13	Vail 6 Dr.			
WP-12	I.I.D.	NW Cor. Lot 6 Sec. 5, 12-13	Salton Sea	7-13-79 10'	2 @ 5 HP	17-60-0742-01

Surface Drainage Sumps - January 1, 1986 (Continued)

<u>Name</u>	<u>Location</u>	<u>Discharges Into</u>	<u>Date Installed</u>	<u>Type & Depth of Sump</u>	<u>No. and HP Pumps</u>	<u>Power Account No.</u>
WP-13 Vonderaher	NW Cor. Lot 4 Sec. 5, 12-13	Vail 5-A Drain	3-17-80	10'	1 @ 5 HP	17-60-0762-06
WP-14 Dearborn	NW Cor. SW 1/4 Sec. 33, 11-13	Vail 5 Drain	7-10-79	10'	1 @ 5 HP	17-60-1171-09
WP-15 Del Ranch	NW Cor. SE 1/4 Sec. 33, 11-13	Vail 4-A Drain	3-19-80	10'	1 @ 5 HP	17-60-1166-06
WP-16 I.I.D.	Ctr. N Line NW 1/4 Sec. 33, 11-13	Salton Sea	4-10-80	10'	1 @ 5 HP	17-60-0772-04
WP-17 U.S.A.	NW Cor. NE 1/4 Sec. 33, 11-13	Pumice Drain	4-17-80	10'	1 @ 5 HP	17-60-0771-05
WP-18 Sanborn	NW Cor. NW 1/4 Sec. 34, 11-13	Pumice Drain	4-17-80	10'	1 @ 5 HP	17-60-0786-08
WP-19 Baretta	NW Cor. NE 1/4 Sec. 34, 11-13	Pumice Drain	5-6-80	10'	1 @ 5 HP	17-60-1155-09
WP-20 I.I.D.	Ctr. W Line SE 1/4 Sec. 28, 11-13	Salton Sea	12-30-80	10'	1 @ 5 HP	17-60-0767-01
WP-21 Elmore	NE Cor. SW 1/4 Sec. 27, 11-13	Vail Lateral 3-A Spill	5-6-80	10'	1 @ 5 HP	17-60-0796-06
WP-22 Smith	NW Cor. SE 1/4 Sec. 27, 11-13	Vail 3-A Drain	7-5-79	10'	1 @ 5 HP	17-60-0797-05
WP-23 Smith	NW Cor. SW 1/4 Sec. 26, 11-13	Vail Lateral 3	7-18-84	10'	1 @ 5 HP	17-60-0815-03
WP-24 Elmore	NW Cor. Lot 6 Sec. 4 12-13	Vail 5 Drain	3-13-85	10'	1 @ 5 HP	17-60-1174-06
WP-25 McCoy	NW Cor. NW $\frac{1}{2}$ Sec. 35 11-13	Pumice Drain	6-14-85	10'	1 @ 5 HP	17-60-1145-02

DRAIN SUMP PUMPS - January 1, 1986 (Continued)

S.S. No.	Name	Location	Discharge Into	Date Installed	Type & Depth of Sump	No. and HP Pumps	Power Account No.	Center L. of Discharge to Top of Sump
<u>Sump Pumps Installed Adjacent to Salton Sea (Regulation No. 41)</u>								
1	John J. Elmore (Agreement No. 2)	NE Cor. SE $\frac{1}{4}$ Sec. 13, 12-11	Trifolium 20 Drain	8-13-53	Conc. 16'	3 @ 3	20-50-0410-09	12"
2	John J. Elmore (Agreement No. 1)	NE Cor. N $\frac{1}{2}$ Sec. 24, 12-11	Trifolium 20 Drain	11-28-53	Conc. 14'	2 @ 3	20-50-0400-01	Over Top
3	John J. Elmore (Agreement No. 3)	Ctr. N Line SW $\frac{1}{4}$ Sec. 13, 12-11	Trifolium 22 Drain	1-3-54	Conc. 14'	2 @ 3	20-50-0420-07	12"
4	Union Development Co. (Agreement No. 4)	Ctr. N Line NE $\frac{1}{4}$ Sec. 33 11-13	Pumice Drain	3-20-54	Conc. 16'	1 @ 1 $\frac{1}{2}$	17-60-0771-05	12"
5	Charles A. Vonderthe (Agreement No. 5)	NW Cor. NE $\frac{1}{4}$ Sec. 5, 12-13	Vail 5A Drain	7-8-54	Conc. 14'	1 @ 3	17-60-0760-08	12"
6	John J. Elmore (Agreement No. 6)	NE Cor. SE $\frac{1}{4}$ Sec. 11, 12-11	Salton Sea	8-5-54	Conc. 14'	2 @ 3	20-50-0430-05	12"
7	Alice T. Sinclair (Agreement No. 9)	NW Cor. NE $\frac{1}{4}$ Sec. 8, 12-13	Vail 5A Drain	8-26-54	Conc. 12'	2 @ 3	17-60-0750-00	12"
*8	Griset Brothers (Agreement No. 8)	NW Cor. E $\frac{1}{2}$ of NW $\frac{1}{4}$ Sec. 24, 12-12	Salton Sea	8-26-54	Conc. 18'	2 @ 3	17-60-0675-02	12"
9	Axelson (Agreement No. 10)	NW Cor. SE 1/4 Sec. 33 11-13	Vail 4A Drain	3-31-55	Conc. 12'	1 @ 3	17-60-1165-07	12"
*10	John Jameson Elmore (Agreement No. 13)	NW Cor. SW $\frac{1}{4}$ Sec. 26, 11-13	Vail Lateral 3	6-15-56	Conc. 14'	1 @ 3	17-60-0810-08	12"
11	John Jameson Elmore (Agreement No. 14)	Center Sec. 7, 12-13	Private Drain	6-28-56	Conc. 16'	2 @ 3	17-60-0730-05	12"
12	Tom Fairchild (Agreement No. 11)	NW Cor. NW $\frac{1}{4}$ Sec. 18, 12-13	Vail Cut-Off Drain	6-6-56	Conc. 14'	1 @ 3	17-60-0700-01	12"
*13	B. Reese (Agreement No. 15)	NE Cor. S $\frac{1}{2}$ of SW $\frac{1}{4}$ Sec. 19, 12-12	Trifolium 19 Drain	4-23-57	Conc. 14'	1 @ 1 $\frac{1}{2}$	20-50-0212-09	12"
14	W. H. Heise (Agreement No. 16)	NE Cor. NW $\frac{1}{4}$ Sec. 33, 12-12	Trifolium Storm Drain	6-4-57	Conc. 14'	1 @ 3	07-50-2490-05	12"
15	Sinclair Ranches (Agreement No. 17)	NW Cor. SW $\frac{1}{4}$ Sec. 34, 11-13	Vail 4 Drain	7-22-57	Conc. 14'	1 @ 3	17-60-1160-02	12"
16	Sinclair Ranches (Agreement No. 19)	NW Cor. SE $\frac{1}{4}$ Sec. 5, 12-13	Vail 5A Drain	2-14-58	Conc. 12'	1 @ 3	17-60-0755-05	12"
17	John J. Elmore (Agreement No. 18)	1,310' W of NE Cor. NE $\frac{1}{4}$ Sec. 11, 12-11	Trifolium Drain No. 23	2-17-58	Conc. 14'	2 @ 3	20-50-0445-08	12"
18	John Baretta (Agreement No. 20)	NW Cor. NE $\frac{1}{4}$ Sec. 34, 11-13	Pumice Drain	5-13-58	Conc. 12'	1 @ 1 $\frac{1}{2}$	17-60-1157-07	12"

*Toxic Fumes in Sump

15 All Pumps are 220-Volt Single-Phase

DRAIN SUMP PUMPS - January 1, 1986 (Continued)

S.S. No.	Name	Location	Discharge Into	Date Installed	Type & Depth of Sump	No. and HP Pumps	Power Account No.	Center L. of Discharge to Top of Sump
<u>Sump Pumps Installed Adjacent to Salton Sea (Regulation No. 41)</u>								
19	Sinclair Ranches (Agreement No. 21)	NW Cor. W $\frac{1}{2}$ Sec. 8, 12-13	Vail 6 Drain	9-29-58	Conc. 12'	1 @ 3	17-60-0735-00	12"
20	Sinclair Ranches (Agreement No. 22)	NW Cor. SW $\frac{1}{4}$ Sec. 5, 12-13	Salton Sea	7-9-59	Conc. 14'	1 @ 1 $\frac{1}{2}$ 2 @ 3	17-60-0740-03	12"
21	Tom Fairchild (Agreement No. 23)	NW Cor. NE $\frac{1}{4}$ Sec. 18, 12-13	Vail Cut-Off Drain	8-12-59	Conc. 12'	1 @ 3	17-60-0710-09	12"
22	William Heise (Agreement No. 24)	NE Cor. SE $\frac{1}{4}$ Sec. 29, 12-12	Trifolium 18 Drain	10-20-59	Conc. 12'	1 @ 1 $\frac{1}{2}$	07-50-2595-09	12"
23	J. Elmore (Agreement No. 25)	NW Cor. SW $\frac{1}{4}$ Sec. 18, 12-13	Vail 7 Drain	4-27-61	Conc. 14'	1 @ 3	17-60-0690-03	12"
24	Grace & Peck (Agreement No. 26)	NW Cor. NW $\frac{1}{4}$ Sec. 19, 12-13	Vail 7 Drain	4-27-61	Conc. 12'	1 @ 3	17-60-0695-08	12"
25	Elmore (Agreement No. 27)	NW Cor. NW $\frac{1}{4}$ Sec. 34, 11-13	Pumice Drain	10-4-61	Conc. 14'	1 @ 3	17-60-0785-09	12"
26	Elmore (Agreement No. 28)	NE Cor. SE $\frac{1}{4}$ Sec. 3, 12-11	Private Drain	7-11-63	Conc. 14'	2 @ 3	20-50-0455-05	12"
27	Elmore (Agreement No. 29)	NE Cor. SW $\frac{1}{4}$ Sec. 3, 12-11	Private Drain	7-11-63	Conc. 14'	2 @ 3	20-50-0450-00	12"
28	Elmore (Agreement No. 31)	NW Cor. Sec. 25, 12-12	Trifolium Lat. 12 Spillway	2-19-64	Conc. 16'	1 @ 5	07-50-2060-05	12"
29	Dearborn (Agreement No. 32)	NW Cor. NE $\frac{1}{4}$ Sec. 25, 12-12	Trifolium 11 Drain	2-19-64	Conc. 14'	1 @ 3	07-50-2055-02	12"
30	Elmore (Agreement No. 33)	NW Cor. E $\frac{1}{2}$ of NW $\frac{1}{4}$ Sec. 11, 12-11	Trifolium 23 Drain	6-3-66 (Conc. 16' 36'')	Conc. 14' (Conc. 16' 36'')	1 @ 5 2 @ 5	20-50-0444-09	12"